

Government Museum, Chennai

MUSEUM'S JOURNAL

(April 2001 - September 2001)



Published by
Dr. R. KANNAN, Ph.D., I.A.S.,
Commissioner of Museums,
Government Museum, Chennai-600 008.
December 2001



GOVERNMENT MUSEUM, CHENNAI

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Front Cover

National Art Gallery (Victoria Hall), 1906 AD.

Back Cover

Museum Theatre, 1896 AD.

**Authors of the articles are responsible for their views in their
Articles.**

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Letter from the Commissioner. .

It gives me pleasure to bring to you this issue of the journal of the Government Museum, Chennai, for the period from April 2001 till end of September 2001.

As stated in the previous issues, the events planned in connection with the 150th year of the establishment of the museum have got under way. On 16-7-2001, I had an opportunity to make a presentation before the then Chief Minister on the activities and policy issues that need to be addressed for this museum, the Museum Department in general and in the field of archaeology of the activities covered by the State Department of Archaeology. This is because for the first time the Government has appointed one Commissioner for heading both the Departments of Archaeology and Museums. In the minutes of the meeting, many of the decisions sought like enhancing the admission fee for the Museum, the Theatre on the revenue side and provision of funds for conservation and restoration of the old buildings of this museum like Pantheon buildings which includes the Front Buildings and National Art Gallery, monuments and temples under the control of the State Department of Archaeology have been given.

Even in the 1980's, it was planned to remove the Amaravati sculptures, which have embedded in the walls since circa 1870 AD on account of the deterioration due to salt and moisture absorption on account of capillary action. This was due to the rise in the road levels, stagnation of water in the Museum premises. This year, it is planned to remove all the sculptures, which are below waist level. A test operation was conducted with the help of the modern electro-mechanical equipment like drills, cutters etc., on 10.09.2001. As a result, an electric drill has been identified as appropriate for this work, which will be completed within two months.

The Web site of the Museum consists of 1400 A-4 size pages. It is one of the biggest in the world. It has a slide show a virtual tour and video clips as special features. The address is 'www.museumchennai.org' and 'www.govtmuseumchennai.org'. Readers are invited to browse it. Documentation of the past publications and other facets of the museums like history etc. have been done. The missing knowledge about past publication was made good by accessing Web sites like the British Library, the Royal Anthropological Survey etc. Still if anything is left out, readers are free to send us suggestions and information.

An International Seminar on Conservation of Stone Objects in collaboration with the Nehru Trust for Indian Collections at Victoria & Albert Museum, London at New Delhi and the Indian Association for the Study of Conservation is to take place on 18-12-2001. It will be inaugurated by the Hon'ble Minister for Education, Government of Tamilnadu, Dr.N.Thambidurai, under the purview of whose ministry this museum functions. Scholars and Conservationist from all over the world are expected to participate in it. A National Seminar in association with Museums Associations of India is also planned. The culmination event will be the 150th year celebration itself.

A Rock Art Gallery is planned to be set up this year for which a lot of research has been undertaken. Field trips to places like Vellerikombai in Nilgiris, Keelvalai, Bhimbetka, Bhopal, a visit to the Rock Art Society at Agra, National Museum of Natural History at New Delhi were undertaken. The trips were exhausting and sometimes dangerous like the trip to Vellerikombai in the forests of Nilgiris. Some Curators, staff and the Commissioner nearly lost their lives.

Modernisation of all the galleries is planned. Frame-less mega-size showcases with modern lighting on par with European standards are being planned for reorganising the old galleries. A Touch-Screen display, a simulated cave with Infra-red ray activated son-et-lumière etc are planned for the Rock Art Gallery. To improve security, electronic surveillance cameras with a computerised control room have been proposed.

Nearly Rs.3.00 crores for the conservation of the heritage buildings like the National Art Gallery and Pantheon Buildings has been sanctioned. The work will be done either directly by the Archaeological Survey of India or under the guidance of its personnel who are considered as experts in conservation of heritage buildings.

Computerisation is going on. The important objects classified as "AA" and "A" have been electronically documented with the help of software and a computer provided by the Government of India, Ministry of Culture. They will be released as Compact Disks (CDs) shortly. The museum has recently acquired a 6X Optical Zoom Digital Camera to photograph artefacts and download them directly on to the computer. This will make the task of electronically recording the collections with photos easy. The entire collections can be loaded on to a single CD and sold.

The Website will be inaugurated by the Hon'ble Minister for Education when he comes to inaugurate the International Seminar. A special exhibition on Geological Specimens is also to open on this occasion.

The Tanjore Art Gallery has been brought under the control of the Department of Museums vide G.O.No. Ms.244, Tamil Development, Culture, Hindu Religious and Charitable Endowments Department dated 9-10-2001. The Departments of Archaeology and Museums whose work is inter-related have been brought under the control of the same Commissioner for the first time vide G.O.No. Ms.238, Tamil Development, Culture, Hindu Religious and Charitable Endowments Department dated 1-10-2001.

The pink sand stone used in the compound wall and National Art Gallery has been identified after much research as that taken from the Andhra area bordering Chennai like Sathavedu up to Rajahmundry. Since it was red sandstone, it was thought to be from Jaipur, Bhopal etc. This identification was done by the Professor of Geology of Lucknow University. No local geologist could identify it.

The Approach Paper to the Tenth Five Year Plan has been submitted to the Government. The single thread of thought that runs through this Medium Term Planning exercise is what started as the Mission Statement of the Museum in 1999. It was amplified as the analysis of the structure and activities of the museum from a management perspective. This analysis was debated first as a Popular Monthly Lecture delivered by me on 25-2-2000 and agreed. It also appeared as an article in the issue of this Journal for the period October 1999 to March 2000. It is this vision of a few Core personnel backed by a lot of resources by way of capital outlay and use of the latest technology for conserving and restoring the old heritage buildings, electronic data processing and recording of images, and modernising display that is being implemented. This costs more than the usual old techniques. **Like the West, it is better to have a few excellent state of the art galleries in the museum rather than have a large quantity of Second Best.**

With the support of Central and State Governments and the knowledge seeking public, it is hoped that this museum will continue to serve society as it has done in the past.

Chennai-600008

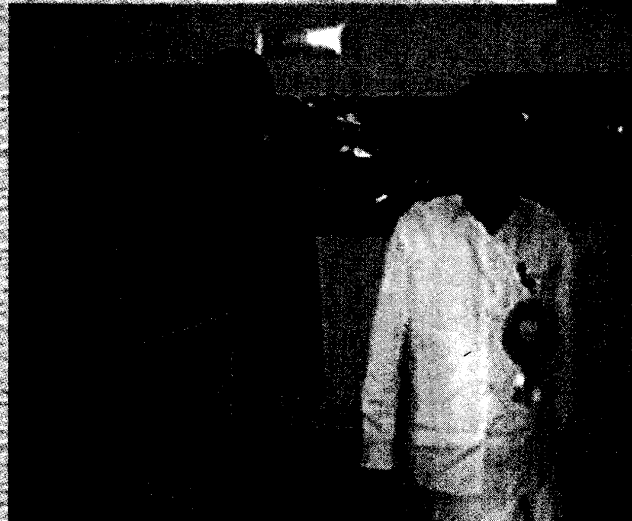
Dated: 05.12.2001

Dr. R. Kannan, Ph.D., I.A.S.

MUSEUM NEWS

Description of the colour photographs in the next page

1. Dr. M. **Thambidurai**, Honourable Minister for Education, Government of Tamil Nadu, on the occasion of the 150th Year Celebrations of the Government Museum, Chennai releases the Museum's Journal, Abstracts Book of the International Seminar on Conservation of Stone Objects with Special Reference to Limestone Objects and a pamphlet on Conservation of Stone Objects, held at the Museum Theatre, Government Museum, Chennai during the inaugural function on 18th December, 2001. Dr. D. A. Swallow, Executive Trustee, Nehru Trust for the Indian Collections at the Victoria and Albert Museum at London, New Delhi receives the first copies. Dr. R. Kannan, Ph.D., I.A.S., Commissioner of Archaeology and Museums looks on.
2. Honourable Minister for Education, after inaugurating the exhibition, organised in connection with the 150th Year Celebrations of the Government Museum, Chennai on Conservation of Stone Objects, goes round the exhibition accompanied by the Commissioner of Archaeology and Museums.
3. Study of the Prehistoric Rock Art Site at Vellerikombai, a totally inaccessible forest area at risk of life and limb by the team from the Museums Department including the Commissioner.
4. Amaravathi Railing of the British Museum, stout figures, *ganas* holding up a lotus stem (Robert Knox, 1992)



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Description of the colour photographs in the previous page

5. **Amaravathi railing, Government Museum, Chennai showing men reclining on lotus stems..**
6. **Commissioner and Rock Art Committee at the famous Bhimbetka Caves near Bhopal.**
7. **Jaguar, God of the Underworld (From Museo Carlos Pellicer, Tabasco, Mexico Website.**
8. **Winged Gods or *Rishis* - Suchindram temple, Kanyakumari District.**
9. **Olmec face (From Museo Carlos Pellicer, Tabasco, Mexico Website).**
10. **A lady with Mayan style hair-do, Suchindram Temple, Kanyakumari District.**

MUSEUM NEWS

DEPARTMENT OF MUSEUMS - AN INTRODUCTION

Government Museum, Chennai was established in the year 1851, with 1100 geological objects. This Museum has now developed into a multipurpose museum with various sections like Archaeology, Numismatics, Anthropology, Botany, Zoology, Geology, Chemical Conservation and Children's Museum. It also includes Education, Design and Display Sections and Chemical Conservation and Research Laboratory as supporting branches. In order to preserve art, cultural and natural heritage and to impart museum education throughout the State of Tamil Nadu, 20 district museums have been established in districts. Collection, registration, preservation of objects, display, researches and publication are the major objectives of these museums.

Government Museum, Chennai functions from 9.30 A.M to 5.00 P.M on all working days except Fridays and National Holidays.

This Museum Journal includes a number of articles and information about the activities of the museums under the Department of museum from April 2001 to September 2001.

The district museums are functioning on all days from 9.30 am to 5.00 pm except Fridays, second Saturdays and national holidays at the following places:

1. Government Museum, Thirugokarnam,
Pudukkottai- 622 002. Ph: 04322-22247

2. Government Museum, Navalur Salai, Salem-636 001
3. Government Museum, Gandhi Museum Campus,
Madurai- 625 020. Ph: 0452-650298
4. Government Museum, Rani Mangammal Hall,
Tiruchirapalli- 620 002
5. Government Museum, Municipal Office Complex,
Erode-638 001
6. Government Museum, Fort, Vellore-632 004
7. Government Museum, Government Hospital Road,
Cuddalore-607 001
8. Government Museum, Bali House, 70, Mysore Road,
Udhagamandalam-643 001
9. Government Museum, Kattur, Coimbatore-641 009
10. Government Museum, Gandhi Memorial Road,
Kanyakumari-622 702
11. Government Museum, St. Mark's Road,
Samathanapuram, Palayamkottai, Tirunelveli-627 002
12. Government Museum, Near Apsara Theatre,
Krishnagiri-635 001
13. Government Museum, Foot of the Hills,
Palani-624 601
14. Government Museum, Weekly Market Road,
Sivagangai-630 561
15. Government Museum, A/M Thiagarajaswami Temple,
Tiruvarur-610 002.
16. Government Museum, 35, First Line Beach,
Nagapattinam-611 001
17. Government Museum, 117, Munusamy Avenue,
Kanchipuram-636 501
18. Government Museum, Asanammal Buildings,
Head Post Office Road, Ramanathapuram-623 501
19. Government Museum, Municipal Commercial Complex,
Karur-639 001
20. Government Museum, T.T Road, Virudhunagar-626 001

SPECIAL FEATURES

In Government Museum, Chennai the 27th Refresher Course on Care of Museum Objects was conducted from 1st to 30th June 2001. The valedictory function of the Course was conducted on 30th June 2001. Prof. R. Natarajan, Director, IIT, Chennai delivered the valedictory address and distributed the certificates to the participants.

On 28.09.2001 the Government Museum, Chennai in collaboration with Government Siddha Medical College, Arumbakkam inaugurated the revival of conducting "Free Siddha Medical Camp" every month. Dr.R.Kannan,Ph.D.,I.A.S presided over the function. Thiru M.F.Farooqui, I.A.S.,Commissioner, Directorate of Indian Medicine and Homeopathy participated as Special Guest Dr.P.Jayaprakash Narayanan M.D(S) gave the felicitation. Special lecture was delivered on "Easily available Medicinal Plants and their uses". Yoga demonstrated for diabetes by Dr.Tmt.K.Rajeswari M.D(S),Government Siddha Medical College – Government Museum, Chennai (Botany Section)

Government Museum, Madurai in collaboration with Gandhi Memorial Museum, Madurai conducted "Summer Training Camp" for one month. More than 1000 students participated in



the camp. Vocal Music, Bharathanatyam, Veena, Violin, Mirudangam, Flute, Karate, Silampam, Varmakalai, Drawing, Glass Painting, Photography and Doll making were taught.

Mr.R.Ayyappan, Joint Director of Collegiate Education, Madurai participated as the Chief guest in the valedictory function on 26.05.2001.

IMPORTANT ADDITIONS

As Treasure-trove Finds

In Chennai:

Raja Raja Chola copper coins (11.3kg) from Kurinjipadi Taluk, Cuddalore District and an one *anna* metal coin from Bharathi Girls College, George Town, Chennai as treasure trove; 17 Hongkong coins (1980), one 5 dollar, 7 Nos. 50 cents coins , 8 Nos. 20 cents coins from the Superintendent of the Central Jail, Chennai as unclaimed properties were received and added to the collection of Numismatics Section.

A gold Amman kasu (2.213 grams), twisted gold wire (4.590 grams), 2 gold wire pieces and 2 gold sheets (1.211 grams), and a metal container with lid from Nochikulam village, Kunnam Taluk of Perambalur District; a silver talisman (12.21 grams) and a broken piece of a pottery from Thenkarai kottai village, Pappireddipatti Taluk, Dharmapuri district; 3 Nos. of gold sheets and 10 Nos. *kundu* from Anandimedu village, Lalgudi Taluk; 2 twisted gold wires from Unniyur village, Thottiyam Taluk; 4 Nos. of sheet like gold coins with holes and a small piece of gold chain from Angadu Village, Ponneri Taluk; 2 Nos. broken gold bangles, a gold ring with 4 red coloured stones, a ear stud with 3 stones from Alagumalai village, Tiruppur Taluk, Coimbatore District were received and added to the collection of the Anthropology Section.

In Districts:

Pudukkottai

A stone sculpture of *Parvati* (ht. 2') received as treasure trove from Kadalangudi and added in the reserve collections of this Museum.

Salem

Stone sculptures of Sri Devi (4'.1") and Bhudevi(4'.1") from Kathiranallur village, Namakkal Taluk and District; 2 Nos. of *Lingam* from Navanee village, were received and added to the collection.

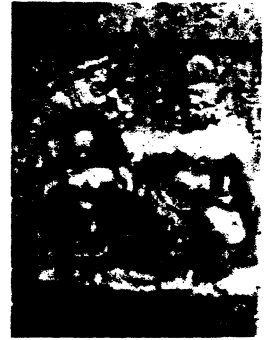


Madurai

An inscribed stone pillar (About 12th -13th century AD), Devi stone sculpture (about 19th century AD) from Uthamapalayam, Theni; 2 Nos. of Hero

stones (about 17th century AD) from Kulasekarankottai; a Devi bronze (about

18th century AD) from Sinnamanur and Terracotta figures of 17th Century AD) were received and added to the collection.



Tiruchirapalli

Three brass Chainlets which were collected from the Govindaputhur village were received from Udayarpalayam Taluk of Ariyalur District as Treasure trove. Three bronzes of Vishnu, Sridevi and Bhudevi were received by the order of Judicial Magistrate of Jayamkondam Judicial Court through the Curator, Government Museum, Pudukkottai. A bronze of Devi was also received from the Inspector of Woraiyur Police Station.

Erode

A burial urn from Bhavani Sagar refugee camp, Sathy Taluk, was received as treasure trove and added to the collection.

Coimbatore

'Copper Antennae Swords' (10 Nos.) unearthed as treasure-trove finds from stone quarry known as Kallankuthu, adjoining Perumalswamykaradu near Anaimalai area were received from the Tahsildar of Pollachi Taluk, Coimbatore District and added in the reserve collections of this Museum.

Kanchipuram

9 silver beads, 4 beads with design, 1 thali, 2 Silver rings, 2 ancient Copper coins, Star pagoda gold coins, 2 broken pieces of Thandai, small bones with holes found at Cheyyar Perumancheri Colony were added to museum's collection.

Krishnagiri

Received a 'Devi' stone sculpture from Tahsildar, Krishnagiri, Ht-2ft, hands broken, with the left hand holding a flower, in standing position with legs broken. The sculpture belongs to Vijayanagar Period.

Kanyakumari

A stone sculpture of Ayyanar (Ht.71 cm), Kali (ht.2 feet), Bairavar (Ht.3 feet) and Sudalaimadaswamy (ht.101 cm) belonging to Kanyakumari seashore area, were received as treasure-trove objects from the Kanyakumari Police Station and added to the collection.

Through Field Collections and Gifts

In Chennai:

3 rare manuscripts were digitally photographed from Palani Siddhashramam and objects of Pudukkottai district museum were digitalised (Archaeology Section), 50 vascular plants were collected and preserved as field collection (Botany Section); a mongoose as gift and 2 scorpions as field collection (Zoology Section); 35 first day covers, 35 brochures and 35 mint stamps from the Chief Post Master, Head Post Office, Chennai-2, as gift (Numismatic Section) were added to the respective collections.

In Districts:

Pudukkottai

2 Nos. of iron *Valarithadikal*, a wooden *Valarithadi* were received from Thiru K.Rajendran, Melapanaiyur village and added to the collection.

Salem

Inscribed wooden reaper (length 6'-6", 1892) from Thiru. Ramakrishnan Iyer, Omalur; a Flute from N. Sulaiman, Regional Assistant Director, Department of Art and Culture, Salem were received and added to the collection.

Madurai

A Hero Stone of a Nayak Chief (about 17th century) from Vaigai Riverbed, Madurai as field collection; 11 Naga stones and a sculpture of a Peacock from the Muruga Temple, Rajaji Park, Madurai, 21 first day covers and 19 brochures from the Philatelic Bureau, were received as gift and added to the collection.

Thiruchirapalli

Three copper coins were received as gift from Thiru J. Muthukumar of Chinnakadai Street, Tiruchirappalli. Twenty-six first day covers with special cancellation were received from the Senior Post-Master, General post-office, Tiruchirapalli.

Erode

Herbaria of 5 medicinal plants were collected as field collection and added to the collection. 30 stamps of various countries were received from Thiru.Karthikayan as gift and added to the collection.

Udhagamandalam

Small copper oil vessel and copper bucket received as a gift from Tmt. B.Karunai Nayaki, Chennai; One paisa copper coin, one paisa nickel coin, two paisa nickel coin, three paisa nickel coin totally four coins received as gifts from Mrs. Renukadevi were added to the museum collections.

Coimbatore

As Field Exploration, the Curator of this museum has acquired lumps of slags and hematite from the Megalithic Iron Industry site identified at Salaipudhur in the Palladam - Udumalpet route and were added to the reserve collections of this museum.

A piece of Bojpathar bark was received as gift from Thiru D.Asokan, Technical Assistant of this museum and a wood carving (depicting 'Kamadhenu standing beneath Kalpaka Vriksha') from Thiru.C.N.Krishnan of Podanur were added to the reserve collections of this museum.

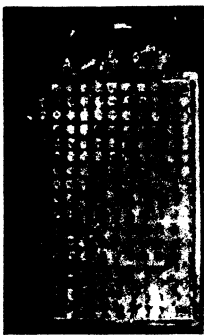
Cuddalore

Iron age slag and few potteries as field collection from Keezhvalai; A Scorpion and a Sea horse from a student of Municipal Higher Secondary School were received as gifts and added to the collection.

Kanyakumari

The Head of Yakshi Nagaraja and Eyakkan Terracotta from Aruvikarai, Tiruvattar Taluk, Two Grains storage pots(ht.4 ½'; 3') from Thiru. Subbiah,





Alur, one wooden Mortar (ht. 1') from Thiru. Nallaperumal, Alur, wooden vessel from Thiru Balasubramanian Alur, An abnormal hen with four legs from Thiru. Kadar Ali, Srivilliputhoor, 21 first day covers, stamps and folders from Senior Post Master, Madurai, bamboo measuring jar, wooden slippers, wooden box with eight room and one coins counting

teak wooden board from Thiru. Rajkumar, Erumbukadu, a rare photo of Travancore Maharaja, Maharani and Diwan Sir.C.P.Ramasamy Iyer from circuit house Kanyakumari through the PWD Department were received as gifts and added to the collection.



Krishnagiri

Collected a fossil (75-mm Length) from Vepanapalli - through field collection.

Palani

12 bundles of palm leaf manuscripts received as gifts from Pulippani Ashramam, Palani; 5 bundles of palm leaf manuscripts and one stylus received as gifts from Thiru. R.M.Veerappan, a student from Palani; 40 first day covers and brouchers from Indian Postal Department and 17 books received as gifts from Dr. K.M.Rajam, Siddha Physician, Palani were added to the museum collections.

Tiruvarur

16th Century AD Copper coins from Thiruthuraipudi (4.390gms) and 12th Century AD Bairavar (ht. 30 cm) stone sculpture from Tiruvarur town were added as field collections.

A bottle gourd shaped Chicken egg from Thiru. M. Nagarajan, Tiruvarur and 12th century AD Subramaniyan (ht. 29.5 cm) stone sepulture from Thiru. S. Jegathesan, Tiruvarur were received as gifts and added to the collection.

Nagapattinam

Broken Bhuvaneshwari Stone Sculpture (28cm height), Broken Balathandayuthabani Stone Sculpture (28cm height), and Lime mortar *Devi* Sculpture (42cm height) were collected from Palpannaicherry village were added as field collections.

Three Copper coins of Kings George V & VI, from Thiru. S. Vijayakanth, Nagapattinam, two copper coins of King George V, from Thiru. G. Selvam, Nagapattinam, and one copper coin of King George VI, from Thiru. K. Asok, Nagapattinam, were received as gifts and added to the collection.

Sivagangai

Foreign coins - 22 Nos., Indian coins - 20 Nos., Old Indian coins - 11 Nos., Currencies of Oman (quarter Rial)-1No., Japan (5 Rupees) - 1 No., Burma - (1 Kyat) - 1 No., Singapore (2 Dollar) - 1 No., Bhutan(Engultram) - 1 No., India (5 Rupees) - 1 No. and India (1 Rupee) - 1 No. from Thiru.K.Ramesh Ilanthakarai; Foreign coins - 12 Nos. from Thiru.K.N.Thangavelu, Sivagangai; Model House 1 No (Made of match sticks) from Thiru.K.Arunprasannah, Sivagangai; wood carving (Bearing 4 deers, modern period) from Thiru. S.V.Karuppiah S.V.Mill Post, Udumalpet, Coimbatore; Coins - 11 Nos, Sri Lanka Rs.2/- 1 No., India - 10 Nos. from Pastor. Peter, Sivagangai; Wood Carving (Nataraja, Modern period) - 1 No. from Thiru.S.V. Karuppiah Sivagangai; First day covers - 21Nos., Brochures - 19 Nos. from Philatelic Bureau, Madurai -

1; Gandhi (Toy) - 1 No. (terracotta) from Thiru. R. Parangiri Nathan, Sivagangai were received as gifts and added to the collection.

Ramanathapuram

A knife and a spear made of iron from Thiru. Karthigaipandi; a rare size *moongil thattu* and Tirukural book (5cm x 4cm) from Thiru. Satyamoorthi, two art works made of paddy-husk from Selvi. Amina Sahila, a Malaysian bamboo *uri* from Thiru. Subramanian as gifts and two measures and a pot hanging arrangement *uri* made of iron as field collection were added to the collection.

Kanchipuram

Twenty old Indian stamps from Pillayarpalayam S. Kathirvelu, Ten foreign stamps from Tmt.Nalini were received as gifts. Some fresh water bivalves and shells collected from Thirumukkoodal, Uthiramerur, One green june beetle, dragonfly -nymph and Scorpion were collected and preserved by the Curator and added to the collection.

Karur

Additions through field collection and gift : 'Lotus' oil painting has been presented by Thiru. Saravana Prakash, Karur.

Virudhunagar

Brass betel box and nut cutter were received as gifts from Thiru. N. Chandramohan, Tank West Bazaar, Virudhunagar. Iron water jar and brass water pot were received as gifts from Thiru S.Sivachidambaram,, Tank North Bazaar, Virudhunagar. These were added in the accession register and displayed.

VIP Visits

In Chennai:

Ambassador P.F.C.Koch, Netherland Embassy, New Delhi paid a visit to the Government Museum, Chennai on 02.05.2001.

Justice Jayasimha Babu, High Court, Chennai paid a visit to the Government Museum, on 09.05.2001.

Dr.Mrs.Haripriya Rangarajan, Madam Governor of Tamil Nadu paid a visit to the Government Museum,Chennai in connection with her research on Iconography on 05.07.2001.

Shri Harmander Singh,I.A.S., paid a visit to the Government Museum, Chennai on 12.07.2001.

Shri. R.Jayasingh, Deputy High Commissioner for Sri Lanka in Chennai paid a visit to the Government Museum, Chennai on 29.07.2001.

In Districts:

Dr.D.Karthikeyan, I.A.S., Commissioner of Coimbatore Corporation paid a visit to the Government museum, Coimbatore on 08.05.2001.

Ms. Kim hyang sook, Research Fellow of National Ethnology Museum, Japan visited the Government museum, Trichy on 11.08.2001.

Thiru. Kahan Deep Singh Bedi,I.A.S., District Collector, Kanyakumari paid a visit to the Government Museum, Kanyakumari on 19.08.2001.

Mr.S.S.Chandran , M.P.(Rajya Sabha) paid a visit to the Government museum, Sivagangai on 25.08.2001.

Thiru N.Muruganandam, the District Collector of Coimbatore, paid a visit to the Government museum, Coimbatore on 22.09.2001.

Thiru. Sudeep Jain, I.A.S., District Collector, Nagapattinam, visited the Government Museum, Nagapattinam on. 25.08.2001.

Research Facilities and Loan of Objects

In Chennai:

Research facilities were rendered to the following persons for their research:

Thiru Rama Rao, Manager, IOB, (Sadavahana coins) Tmt. Meenakshi, Sivagangai (Sedupathi and Nayak coins), 3 history students of Parasakthi College, Kuttralam (inscriptions on the coins(Numismatic Section); Dr.T.P. James, Scientist, Central Marine Fisheries Research Institute(Molluscs), Dr. Rickwest, Canada and Thiru Andrew Smith, London (Spiders) (Zoology Section); Selvi. Reena, Chennai (Rubiaceae) Selvi. Aruna, Chennai (Economic plants) (Botany Section); Study materials and loan specimens of Botany Section, Zoology Section and Children Museum of the Government Museum were given to Vivekananda Vidyalaya School, Chennai.

In Districts:

Pudukkottai

Research facilities were rendered to Thiru C. Ganesan, M.Phil., student Bharathidasan University,(Nartthamalai - An Historical Research), Thiru P. Kunasekar, M.Phil. student, Madurai Kamaraj University,Selvi C. Malarkodi, M.Phil student, Madurai Kamaraj University,(History of Valikandapuram), Thiru R. Ethural,M.Phil student, Pudukkottai (Coins in Pudukkottai Inscription), Selvi V. Anjali Devi, Tamil University, Thanjavur(Month of *Aadi* in Tamil Culture).

Madurai

Research facilities were rendered to Tvl. A.Mahalingam, V. Paulraj, M.Ramachandran, J.Parvathavarthini and K. Santhanalakshmi (Inscriptions), Tvl. K. Latha, Urmila, V.Kanthamanohari (Temple Architecture), Dr. T.S. Thangamuthu, and N.Jawahar Benjamin (Museology).

Tiruchirapalli

Research facilities were extended to Traditional Siddha Medical Practitioner Thiru. V. Raghavan to inspect palm leaf manuscripts, Thiru. D. Muneeswaran for his research on history and development of Perambalur District, Ms. J. Priya and N. Sumathy, Architecture students of Anna University for their research about 'Periakadai Peethi', Tiruchirappalli, Miss. M. Madhavi of Regional Engineering College, Tiruchirappalli for her research on 'Tiruchi Echo village', Miss. S. Vanaja of St. Joseph's College, Tiruchi for her research on 'Bronzes of Tiruchirapalli Museum' and Miss. A. Manohari and B. Ajeetha, Architecture students of Periyar Maniammai Women's Technical Institute, Vallam of Thanjavur District for their research.

Cuddalore

Research facilities were rendered to Ms.M.Telles ("Ernest William Fallow Field-1805-1811"), Ms.Yuko Fukuroi, Japan (Buddhism in South India), Mr.Ranganathan, M.Phil Research student (Bifurcation of Villupuram District).

Erode

Research Facilities were rendered to Thiru.Jagadeesan (Erode District), Thiru.Prabakaran (Temples of Erode District), Thiru.Venkatesan (Vijayamangalam-Nettaikopuram), Thiru.NalNatarasan (Erode municipality).

Coimbatore

Archaeological loan exhibits were given to the 'Special exhibition' on "Recent archeological finds in and around Coimbatore", organized on 09.08.2001 by the Department of History, P.S.G.R.Krishnammal College for Women, Coimbatore and to the "Archaeological Exhibition", organized on 06.09.2001 by the Department of Tamil, P.S.G.College of Arts & Science, Coimbatore.

Research facilities were extended to Thiru. M.Prabhakara Rao, Chief of Communications, Salem Steel Plant, Salem (Megalithic Iron Industry Site) identified at Salaipudhur in Palladam-Udumalpet route and to Thiru. K.Sarguru Mahadevan, Managing Director, TUCAS, Thudiyalur in identifying ancient coins.

Research facilities were rendered on sacred plants in the cultural history of mankind to Thiru M.Gunasekaran, Ph.D., Scholar of Salim Ali Centre for Ornithology & Natural History (SACON), Coimbatore.

Palani

Research facilities were rendered on "Chola Inscriptions" to Reader Mrs. Tamilselvi, Arulmigu Palaniandavar Women's College, Palani.

Research facilities were rendered on 'History of Dharapuram' to Dr. S. Krishnamoorthy, Siddha Physician, Dharapuram, by providing reference books.

Nagapattinam

Research facilities were rendered to Thiru, E. Mahadevan, M.E., (Isimportant places of Nagapattinam District), Thiru. Gnana Sekaran, (Ancient India Coins), Thiru. S. Mohan Raj. M.A., B.L., (Nagapattinam treasure -trove Bronzes).

Kanchipuram

Research facilities were rendered to Thiru. S. Ramalingam from Cheyyar (Buddha statues found in Kamatchiammal temple, Kanchipuram), Editor V. Balan (Preservation of palm leaf manuscripts), Tmt. Krishnaveni, Lecturer, Arulmigu Meenakshi Amman Engineering College (Saivite Temples in Kanchipuram), Thiru. Mani, Teacher, Nilavoli school (Archaeology).

Krishnagiri

Dharmapuri Arts College students- Tvl Suresh, Vassan, Selvi Priya, Sindhu, Seetha were guided about the historical aspects of Dharmapuri District.

Udhagamandalam

Palm leaf manuscript bundle one number was loaned to Dr. C. Maheswaran to the purpose of tribal research.

Kanyakumari

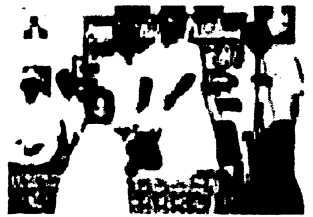
Research facilities were rendered to Thiru Govindaraj, Virudhunagar (Udayagiri fort), Thiru. Senth Natarajan, Kanyakumari (Arumanai Srinivasar stone sculpture), Thiru. Rajkumar, Erumbukadu (Muttam Microlitic Tools) and Thiru. Gopalan, Archaeological Officer (Microlithic Tools core materials).

Sivagangai

Research facility was offered to Thiru. Pandian, Nalukkottai village, Sivagangai, on “Seermigu Sivagangai” on 11.06.2001.

Training Course, Competitions and Celebrations

The following training programmes, courses, competitions and celebrations were conducted at the Government Museum, Chennai and the district museums:

- | | | |
|--------------|---|---|
| 17.05.2001- | “Summer Training Course”- Training on | |
| 24.05.2001 | Drawing and Painting in collaboration with | |
| | Drawing Teachers Association – Government | |
| | Museum, Cuddalore. | |
| 20.05.2001 – | “Art Training |  |
| 25.05.2001 | Programme” for the | |
| | school and college | |
| | students at | |
| | Government Museum, | |
| | Salem | |
| 23.5.2001 | One day training course on 'Palm leaf | |
| | manuscripts' -Traditional Siddha Doctors - 100 | |
| | Doctors participated. Training Given by Pulavar | |
| | S.Raju, Erode- Government Museum, Palani. | |

26.05.2001



“Summer Training Camp” – Vocal Music, Bharathanatyam, Veena, Violin, Mirudangam, Flute, Karate, Silampam, Varmakalai, Drawing, Glass Painting, Photography and Doll making in collaboration with Gandhi Memorial Museum – Government Museum, Madurai .

03.09.2001-

07.09.2001

“Training on Estampage” – undergraduate history students of Mannar College, Pudukkottai participated. – Government Museum, Pudukkottai.

13.09.2001

“ College poem Competitions - 2001 “ - 29 college students participated. Pulaver Rejeshwari, M.A., M.Ed., inaugurated the competitions at Government Museum, Tiruvarur.

28.09.2001

“Siddha Medical Camp” in collaboration with Government Siddha Medical College, Arumbakkam.Thiru M.F.Farooqui, I.A.S.,Commissioner, Directorate of Indian Medicine and Homeopathy-Special Guest and Yoga Demonstration by Dr.Tmt.K.Rajeswari – Government Museum, Chennai (Botany Section)

29.09.2001

“ArchaeologyTraining” given to the III year BA history students of Udthagamandalam.

Seminars, Workshops and Camps

The Department of Museums conducted the following seminars, workshops and camps in Chennai and districts.

- 12.04.2001- Two days Seminar on "Palm leaf manuscripts and
13.04.2001 Herbal Plants" - organised in collaboration with
Dharapuram Siddha Doctors Association-
Government Museum, Palani.
- 14.5.2001- Workshop on "Bastar Tribal Painting" organised
18.5.2001 in collaboration with National Folklore Support
Center (NFSC), Chennai in Government
Museum, Chennai (Education and Art Sections).
- 24.05.2001 Seminar on "Herbal Plants" organised in
collaboration with Anaithulaga Siddhar Kalai
Membattu Myam, Palani and Coimbatore District
Siddha Doctors Association, Coimbatore-
Government Museum, Palani.
- 08.07.2001 Seminar on "Venom bites and Anti-Venom
Herbals" -Organised with Palani Pulippani
Ashramam, at Government Museum, Palani.
- 06.08.2001- Workshop on "Pithora Painting" organised in
11.08.2001 collaboration with National Folklore Support
Center (NFSC), Chennai in Government
Museum, Chennai (Education and Art Sections).
- 17.09.2001- Workshop on 'Pata Painting' organised in
21.09.2001 collaboration with National Folklore Support
Center (NFSC), Chennai in Government
Museum, Chennai, (Education and Art Sections).
- 26.09.2001 One day seminar on "Education" – Organised for
College students in Government Museum,
Salem.

Presentation of Papers in Seminars / Workshops

In Chennai:

Dr. R. Kannan. Ph.D., I.A.S., Commissioner of Museums

25.04.2001- "Modernisation of Some of the Galleries in the
03.05.2001 Government Museum, Chennai"- Paper
presented in the Seminar organised by All India
Museum Association of India held at Nasik and
visited the Ajanta and Ellora cave paintings.
Visited the Anjaneri Numismatic Museum at
Nasik.

Thiru. K. Lakshminarayanan, Curator, Education Section

25.04.2001- "Storage Problems in Museums"- Paper
03.05.2001 presented in the Seminar organised by All India
Museum Association of India held at Nasik and
visited the Ajanta and Ellora cave paintings.
Visited the Anjaneri Numismatic Museum at
Nasik.

21.07.2001 - "Jain Yakshi Bronzes of the Government
22.07.2001 Museum, Vellore" – paper presented in the 11th
Seminar organised by the Tamilnadu
Archaeological Society at Madurai.

Dr. V. Jeyaraj, Curator, Chemical Conservation and Research Laboratory

27.04.2001 "Chemical Conservation Gallery – A New
Concept"- paper presented in the All India
Museum Conference at Nasik.

29.04.2001 Repatriation of Museum Objects- paper presented in the All India Museum Conference at Nasik

Thiru.M.Mohan, Curator, Contemporary Art Gallery Government Museum, Chennai

25.04.2001- “Visual Storage for Paintings in Chennai
03.05.2001 Museum”- paper presented in the Seminar organised by All India Museum Association of India held at Nasik and visited the Ajanta and Ellora cave paintings. Visited the Anjaneri Numismatic Museum at Nasik.

Dr. J. Raja Mohamed, Curator, Government Museum, Pudukkottai.

21.07.2001 , “Hero stones of Pudukkottai” – paper presented
22.07.2001 in the 12th Seminar organised by the Tamilnadu Archaeological Society at Madurai.
15.09.2001 “Maritime activities during 18th,19th centuries in the Minor Ports of Tirunelveli district” – paper presented in the History seminar at Palayamkottai

Thiru. M . Gandhi, Curator, Government Museum, Vellore

21.07.2001 , “Surya Sculpture at Koratti” – paper presented in
22.07.2001 the 12th Seminar organised by the Tamilnadu Archaeological Society at Madurai.

Thiru. P. Sam Sathyaraj, Curator, Government Museum, Madurai

- 21.07.2001- "Recent collections of Government Museum,
22.07.2001 Madurai – an Inscribed Pillar of Sundarapandia
period and Hero stone from Vadipatti"(in Tamil)
– paper presented in the Workshop organised by
the Tamilnadu Archaeological Society – 12th
Conference at Madurai.

Thiru. Raj Mohan, Curator, Government Museum, Tiruchirapalli

- 27.9.2001 'The stand of museums in the development of
Tourism " – paper presented in the conference
held in connection with the World Tourism Day.

Dr. C. Maheswaran, Curator, Government Museum, Coimbatore

- 07.04.2001 "The contribution of Folkloristic studies in
Identifying Native Tradition" (in Tamil) at the
seminar entitled, 'We Need Folkloristic Studies',
jointly organized by Aravaanan Research Trust
(ART) & Department of Folkloristics, Tamil
University, Thanjavur.

Thiru. C. Govindarajan, Curator, Government Museum, Virudhunagar

- 21.07.2001 "Kodumbalur movarkovil oru pudiya parvai"
22.07.2001 paper presented in the 11th seminar of the Tamil
Nadu Archaeological society, held in Madurai.

Participation in Workshops, Expert Committees, Seminars etc...

Thiru. M . Gandhi, Curator, Government Museum, Vellore

- 25.04.2001- Participated in the seminar organised by the All
03.05.2001 India Museum Association of India held at
Nasik and visited the Ajanta and Ellora cave
paintings. Visited the Anjaneri Numismatic
Museum at Nasik.

**Dr. C. Maheswaran, Curator, Government Museum,
Coimbatore**

- 19.07.2001- Participated as resource person in the "N.G.O.s &
20.07.2001 Volunteers Meet on Nilgiri Biosphere Reserve
Conservation & Education Programme", jointly
organized by the C.P.R. Environmental
Education Centre & Tamil Nadu Green
Movement (TNGM) at Bandipur National Park.
19/09/2001 Participated in the Extra-ordinary meeting of
Indian National Trust for Art & Cultural Heritage
(INTACH) organized to discuss on planning a
festivity on "Kongu Heritage".

Popular Lectures and Special Lectures

In Chennai:

- 16.05.2001 "Indian National Movement – A Theoretical
Perspective" Dr.G.T.Sudhakar,Ph.D., Department
of History, Loyola College, Chennai in

connection with Prof. T.Balakrishna Nayar
Endowment Lecture.

- 21.05.2001 "New discoveries at Gingee" – Thiru. K.T.Narasimhan, Archaeological Survey of India, Chennai Circle, Chennai in connection with Prof. T. Balakrishna Nayar Endowment Lecture.
- 27.06.2001 "Ancient South Indian Script Tamil Brahmi" – Dr.M.D.Sampath, Director, Epigraphy, Archaeological Survey of India, Mysore .
- 04.09.2001 "Rock Art" – Dr. S. Gurumurthi, Member, Central Board of Archaeology, Government of India, Chennai.
- 27.09.2001 "Birth of Modern Art" – Dr. Ramanarayanan, Reader, Department of Fine Arts, Stella Maris College(Autonomous), Chennai.
- 28.09.2001 "Easily available Medicinal Plants and their uses" – Dr. S. Thirunavukarasu,M.D.(S), Researcher, Central Research Institute, Chennai.

In District:

- 20.05.2001 Ilakkia Thendral Thiru. Vairamalai Anthonysamy delivered a lecture on 'Bharathidasan' and the function was presided over by Dr. N. Manickam of National College - Government Museum, Tiruchirapalli.
- 23.05.2001 Pulavar S.Raju, delivered special lecture on 'Palm leaf manuscripts' Government Museum Palani.
- 31.07.2001 Folk Music"-Tmt. D.S.Vasanthakumari, Music teacher, Govt. Girls High School, Kanchipuram
"Role of Museums and students in the preservation of our cultural traditions"-Thiru K.Chakrapani, District Non-formal and Adult Education Officer, Kanchipuram - Government

- Museum, Kanchipuram.
- 14.08.2001 “Small Industries at Sivagangai District”-
Er.M.Selvamani B.E., General Manager,
Sivagangai District Information Centre -
Government Museum, Sivagangai.
- 23.09.2001 “ Thirukoil Sirappu Panpukal “ Thiru. M.
Vijayarangadurai M.A.,M.C., Assitant
Commissioner ICOM center. Hindu Religious
Endowments, Tiruvarur.

Special Lectures for the Trainees

The Curators of the Chennai and District Museums delivered the following Popular and Special Lectures.

In Chennai:

Thiru. K. Lakshminarayanan, Curator, Education Section

- 05.06.2001 “Museum Education”- in the 27th Refresher
Course on Care of Museum Objects at
Government Museum, Chennai.

Dr. V. Jeyaraj, Curator, Chemical Conservation and Research Laboratory, Chennai

- 01.06.2001- Preventive conservation, Factors affecting
30.06.2001 museum objects, Biodeterioration, Traditional
methods of preservation, Non-toxic pest control
in museums, Care of bronze objects, Care of
Stone Objects, Care of wood carvings, Care of
leather objects, Care of bone and ivory objects,
Care of palm-leaf manuscripts, Care of paper and

books, Care of glass objects, Care of photographs, Care of panel paintings, Care of wall paintings, Care of oil paintings, Care in packing and transportation, Care in storage, Dating of antiquities - lecture delivered in the 27th Refresher Course on Care of Museum Objects, Government Museum, Chennai.

Thiru. P. Jawahar, Curator, Zoology Section

15.06.2001 “Preservation of animals”- in the 27th Refresher Course on Care of Museum Objects at Government Museum, Chennai.

Thiru M. Mohan, Curator, Contemporary Art Gallery

12.06.2001 “Care of Paintings”- in the 27th Refresher Course on Care of Museum Objects at Government Museum, Chennai.

Thirumathi. R. Shanthi, Curator, Numismatic Section

21.06.2001 “Care of Coins Collection”- in the 27th Refresher Course on Care of Museum Objects at Government Museum, Chennai.

Thiru J.R.Asokan, Curator, Design and Display Section

19.06.2001 “Design and Display Techniques of Museum objects”- in the 27th Refresher Course on Care of Museum Objects at Government Museum, Chennai.

Thiru D.Jawahar Prasad Raj, Curator, Geology Section

22.06.2001 “Care of Geological Specimens”- in the 27th
Refresher Course on Care of Museum Objects at
Government Museum, Chennai.

Thiru. R. Balasubramanian, Curator, Archaeology Section

17.06.2001 “Care of Archaeological Specimens”- in the 27th
Refresher Course on Care of Museum Objects at
Government Museum, Chennai.

Tmt.M.N.Pushpa, Curator, Botany Section

16.06.2001 “Care of Botanical Collection”- in the 27th
Refresher Course on Care of Museum Objects at
Government Museum, Chennai.

Thiru K. Sekar, Curator, Children’s Museum

25.06.2001 “Physics in Conservation”- in the 27th Refresher
Course on Care of Museum Objects at
Government Museum, Chennai.

**Dr. J. Raja Mohamed, Curator, Government Museum,
Pudukkottai**

18.08.2001 “Artifacts of Pudukkottai” – Lecture delivered in
the South Indian Youth Training organised by
Nehru Yuva Kendra at Siththannavasal.

Thiru.P. Sam Sathiaraj, Curator, Government Museum, Madurai

- 28.08.2001 "Museology - An Introduction" – special guest lecture at Madurai Kamaraj University for the M.A.(History) students having Museology as optional subject.
- 20.09.2001 "Conservation and Care of Museum Objects" – special guest lecture at Madurai Kamaraj University for the M.A.(History) students having Museology as optional subject.

Thiru. P. Raja Mohan, Curator, Government Museum, Tiruchirappalli

- 16.8.2001 'Sculptures and Bronzes'- special lecture in the inaugural function of History Association held at St. Joseph's College, Tiruchirappalli.

Dr. C. Maheswaran, Curator, Government Museum, Coimbatore

- 01.08.2001 "Primitive Valuables"- a special lecture in the 'Seminar on Sangam Archaeology' conducted at the Department of History, Nirmala College for Women, Coimbatore.
- 09.08.2001 "Semi-precious stones & Rings unearthed" - special lecture in the 'Seminar on Archaeological finds in and around Coimbatore' held at the Department of History, P.S.G.R. Krishnammal College for Women, Coimbatore.
- 06.09.2001 "Muttam of Kanyakumari District : A Mesolithic Human Habitation Site" - special lecture in the 'Seminar on Archaeology' held at the Department

of Tamil, P.S.G.College of Arts & Science, Coimbatore.

- 04.09.2001 "Stone Age Tools & Their Associated Cultures" - delivered a 'Gallery talk' to the students of Department of History, Government College of Arts & Science, Coimbatore at their History Museum.

Thiru. N. Soundara Pandian, Curator, Government Museum, Udthagamandalam

- 14.07.2001 "Tribal Culture" - Special lecture delivered in the Art Training Programme conducted by Art & Culture Department, Udthagamandalam.

Thirumathi. D.Thulasi Brinda, Curator, Government Museum, Krishnagiri

- 25.6.2001 Uses of Museum - lecture by Curator to Government Boys High School Students.
- 04.07.2001 Role of Museums in Education - Lecture by Curator to Govt. Girls High School Students

Tmt. J.M. Gandhimathi, Curator, Government Museum, Kanchipuram

- 21.06.2001 Museum Awareness lectures for Moonlight school students in Yagasalai Middle school, Little Kanchipuram Municipality school and A.K.T Municipality school functioning under the District Arivoli Scheme. The District Co-ordinator Thiru. N.N. Radhakrishnan participated.

**Thiru. K. karunanidhi, Curator, Government Museum,
Thiruvavur**

- 09.04.2001 "Musical Pattimandram" - special talk in the function organised by the Manithaneya Peravai, Thiruvavur in connection A/M Thiyagaraja Temple function, Thiruvavur.
- 22.07.2001 "Kodai Vizha" - Felicitation in the function organised by the "Manithaneya Peravai, Thiruvavur in connection with A/m Thiyagaraja Temple function, Thiruvavur.

**Thiru. J. Mullai Arasu, Curator, Government Museum,
Erode**

- 10.09.2001. "Importance of Stamps" - lecture delivered in Siddhartha Metriculation School, Erode.

Radio Talks / Television Programmes

- 25.07.2001 Interview on "Copper Antennae Swords (10 Nos.)" unearthed as treasure-trove finds from a stone quarry arena near Kallankuthu, Anaimalai area of Coimbatore District was telecasted through Vijay T.V. in its News Bulletin - Dr. C. Maheswaran, Curator, Government Museum, Coimbatore.
- 31.07.2001 & 01.09.2001 "Recent additions to Kanchipuram Museum collections"-special exhibition was telecasted in Raj T.V. and Jaya T.V. - Tmt. J.M. Gandhimathi, Curator, Government Museum, Kanchipuram.
- 21.09.2001 Hen with four legs - Genetical Miracle Interview in Jaya T.V.- telecasted in the

programme of Varamtharum Tamilagam –
Tmt.S.Krishnammal, Curator, Government
Museum, Kanyakumari.

23.09.2001

Coins counting board – rare collection
interview in Jeya T.V. and Raj T.V. News
Channel Tmt. S. Krishnammal, Curator,
Government Museum, Kanyakumari.

Renovations and Improvements to Museums / Galleries

Chennai:

Zoology Section

Integumentary Structures of Amphibians, fishes,
Reptiles and mounted specimens, Wings of Birds, Limbs of
birds, Beaks of birds were renovated and organised display.

Botany Section

“Fungi” showcase in the systematic Botany Gallery was
reorganised.

Numismatic Section

Plaster cast coins, punch marked coins, sadavahana coins
were displayed along with colour photographs.

Children's Museum

In the Physical Science Gallery, 6 electrical and 6
electronic gadgets were prepared, displayed and changed
fortnightly to explain the basic principles of electricity and
electronics.

Design and Display Section

Works related to part II Scheme Projects like special lighting and storage facilities, design and display arrangements , purchase of computers, co-ordination work for website and digitisation of artifacts for National Register were carried out.

Contemporary Art Gallery

Visual storage sliding screen for paintings has been installed as a first of its kind in Indian Museums.

In District:

Tiruchirapalli

The Bronzes of this museum numbering more than one hundred deposited for safe custody with the Government Museum, Pudukkottai, were brought back to this museum as the security and renovation works by the PWD were carried out.

Palani

Two wooden walking sticks collected from the Nilagiri Todas were displayed in the Gallery. Two snakes received from Mr. Snake Rajkumar, Gangayam were stuffed and exhibited in the Gallery. Two bundles of palm leaf manuscripts and one stylus were collected recently and displayed.

Krishnagiri

Skeleton ShowCase (Zoology) was renovated. The skulls of Monkey , bear, hand tortoises and turtles , Anteater, Bat, Crow and Owl were cleaned and preserved and redisplayed in the gallery.

Nagapattinam

Recent collection of two Stone Sculpture and one Lime mortar sculpture were displayed.

Sivagangai

“Stone sculpture garden” was installed, sponsored by Mr. E.M.Sudharsana Nachiappan, M.A.,B.L.,M.P., Sivagangai.

Kanchipuram

Interesting news and scientific information with necessary illustrations were displayed on the bulletin board every week for the benefit of students and public.

Exhibition:

- 06.08.2001- “Ant Eater” – special exhibition at Government
14.08.2001 Museum, Pudukkottai.
26.05.2001 “Child Art Glass
painting and
photography” at
Government Museum,
Madurai.
- 13.06.2001- Paintings drawn in the competition and foreign
25.06.2001 birds’ were kept in exhibition at Government
Museum, Salem.
- 19.8.2001- Coins of British East - Indian company’ - Special
20.9.2001 Exhibition inaugurated by Dr. J. Raja Mohamed,
Curator, Government Museum, Pudukkottai -
Government Museum, Trichirapalli.



10.4.2001 -
23.4.2001



Copper Plates:
Exhibition, inaugurated
by Thiru. Arangarasan,
Chairman, Erode
Municipality in
Government Museum,
Erode.

01.07.2001- The special exhibition on "Care of Museum
05.07.2001 Objects" was conducted in the Centenary
Exhibition Hall of the Government Museum,
Chennai.

31.07.2001 "Recent additions to museum's collections" -
Special Exhibition-Govt. Museum, Kanchipuram,
Thiru. K. Chakrapani, District Non-formal and
Adult Education Officer, Kanchipuram
inaugurated the exhibition.

09.08.2001 "Archeological finds in and around Coimbatore"
- 'Special Exhibition' jointly organized at the
Department of History, P.S.G.R.Krishnammal
College for Women, Coimbatore - Government
Museum, Coimbatore.

06.09.2001 "Special Exhibition on Archeology" - Jointly
organized at the Department of History,
P.S.G.College of Arts & Science, Coimbatore -
Government Museum, Coimbatore.

Publications:

During the period April 2001 - September 2001, the
following books were published:

- 1 Iconography of the Jain Images in the Government Museum, Chennai (Madras)-Museum Publication- Dr. R. Kannan, Ph.D., I.A.S., Commissioner of Museums and Thiru. K. Lakshminarayanan, Curator for Education Section.
- 2 Pamphlet - Care of Museum Objects, 2001 - Dr. V. Jeyaraj, Curator, Chemical Conservation and Research Laboratory.
- 3 Nayak Sculptures in Virudhunagar District (Tamil)- Museum publication- Thiru. K. Lakshminarayanan, Curator for Education Section.
- 4 4 Pamphlet on Chemical Conservation Gallery - - Dr. V. Jeyaraj, Curator, Chemical Conservation and Research Laboratory.
- 5 Disaster Management in Museums - Museum publication - Dr. R. Kannan, Ph.D., I.A.S.
- 6 Museum's Journal -vol. 5 (Tamil & English) May 2001 - Chief Editor - R.Kannan, I.A.S., Editors Dr. V. Jeyaraj and Thiru. K. Sekar.

List of the Museums Publications Available for Sale in Chennai and District Museums:

Sl. No.	Titles and Authors	Price / Rs.
1.	Guide to the Important Monuments In And Around Pudukkottai – M. Raghupathy	30.00
2.	Guide to the Archaeological Galleries – An Introduction to South Indian Temple Architecture and Sculpture – F.H.Gravely and C. Sivaramamurti	25.00
3.	Guide to the Buddhist Antiquities – A. Aiyappan and P.R. Srinivasan	30.00

4.	Illustrations of Indian Sculptures Mostly Southern - for use with the Guide to the Archaeological Galleries – F.H.Gravely and C.Sivaramamurti	25.00
5.	Select Bronzes in the Chennai Museum – M.Raman, I.A.S.	35.00
6.	Guide to the Bronze Gallery – V.N.Srinivasa Desikan	50.00
7.	A Souvenir Released on the Occasion of the Exhibition on South Indian Bronzes – M.Raman, I.A.S.	51.00
8.	Amaravati Sculptures in the Chennai Government Museum – C.Sivaramamurti	210.00
9.	Nagapattinam and Other Buddhist Bronzes – T.N.Ramachandran	117.00
10.	Bronzes of South India – P.R.Srinivasan	386.00
11.	Hand Book of the Madras Government Museum	80.00
12.	Notes on Hindu Images – F.H.Gravely and C.Sivaramamurti	12.00
13.	Guide to the Contemporary Art Gallery – M.Mohan	60.00
14.	Catalogue of Jain Sculptures in the collection of Government Museum, Chennai – R.Balasubramanian	20.00
15.	Catalogue of Stone Sculptures in the collection of the Government Museum, Trichy – N.Sankaranarayana	20.00
16.	Government Museum, Chennai (A small hand book)	5.00

17.	Government Museum, Chennai (Colour Folder)	10.00
18.	Ancient Industries of Tamil Nadu – Natana Kasinathan	35.00
19.	Sri Vaishnava Brahmins – Diwan Bahadur K.Rangachar	100.00
20.	Early Eastern Chalukya Sculpture – C.Sivaramamurti	70.00
21.	Scripts in and Around India – V.Kannaiyan	30.00
22.	Kalaichelvungal (Tamil) – R. Nagasamy	50.00
23.	Buddhist Sculptures from Stupa Near Goli Village, Guntur District – T.N.Ramachandran	40.00
24.	Catalogue of Copper Plate Grants – R.Srinivasa Ayyangar	40.00
25.	List of Inscriptions on Tombs or Monuments in Madras – Julian James Cotton, C.S.	110.00
26.	Story of Buddhism – A.Aiyappan and P.R.Srinivasan	115.00
27.	Nolamba Sculptures – C.Sivaramamurti	50.00
28.	Indian Epigraphy and South Indian Scripts	285.00
29.	Centenary Souvenir, Government Museum, Chennai (1851 – 1951)	175.00
30.	The Three Main Styles of Temple Architecture Recognised by Silpa Sastras – F.H.Gravely and T.N.Ramachandran	20.00

31.	Beginnings of the Traditions of South Indian Temple Architecture – P.R.Srinivasan	20.00
32.	An Outline of Indian Temple Architecture – F.H.Gravely	20.00
33.	Government Museum, Chennai As a Research institution – N.Devasahayam and V.Jeyaraj	35.00
34.	Proceedings of the Seminar on Conservation of Cultural Heritage – V.Jeyaraj	15.00
35.	Handbook on Conservation in Museums – V.Jeyaraj	35.00
36.	Care of Museum Objects – N.Harinarayana and V.Jeyaraj	20.00
37.	Guide to the Anthropological Exhibits – C.J.Jeyadev	39.00
38.	Adivasis of Kodiakkarai – A.V.N.Sarma	9.75
39.	The Tali in Relation to South Indian Initiation Rites – C.J.Jayadev	7.55
40.	The Harappan and the Vedic Cultures : Musings on Some Moot Problems – K.R.Srinivasan	15.00
41.	Catalogue of the Prehistoric Antiquities – Alexander Rea	35.00
42.	Catalogue of Musical Instruments exhibited in the Government Museum, Chennai – P. Sambamoorthy	35.00
43.	The Adichanallur Skulls –S.Zukerman	25.00
44.	Excavation by the Madras Museum at Kilpauk, Panunda, Punnol and Sankavaram - M.D.Raghavan	25.00

45.	Nayars of Malabar – F.Fawcett	35.00
46.	Report on the Socio Economic Conditions of the Aborginal Tribes of the Province of Madras – A.Aiyappan	85.00
47.	Ancient Culture and Tribal Culture (Tamil) – C.J.Jeyadev and M.Ragupathy	25.00
48.	The Foote Collection of Indian Prehistoric and Protohistoric Antiquities – Robert Bruce Foote	200.00
49.	Puppets in the Collection of the Madras Government Museum – N.Devasahayam	55.00
50.	Catalogue of Vijayanagar Coins in the Madras Government Museum – N.Sankaranarayana	74.00
51.	Catalogue of Venetian Coins in the Madras Government Museum – T.G.Aravamuthan	40.00
52.	Catalogue of Venetian Coins in the Government Museum, Madras – N.Sankaranarayana	25.00
53.	Medals in the Collection of the Chennai Government Museum – N.Sankaranarayana	31.50
54.	Select Satavahana Coins - N.Devasahayam, M.Ramarao	20.00
55.	Descriptive Catalogue of the Butterflies in the Collection of Madras Government Museum – S.T.Satyamurti	231.00
56.	The Echinodermata in the Collection of the Madras Government Museum – S.T.Satyamurti	36.40
57.	The Birds' Eggs and Nests in the Collection of the Madras Government Museum – S.T.Satyamurti	43.95

58.	Grasshoppers in the Collection of the Government Museum, Madras – G.Kesavaram	85.00
59.	Guide to the Birds Gallery – S.T.Satyamurti	11.30
60.	Mammals (Tamil) – S.T.Satyamurti	8.30
61.	The Preservation of Zoological Specimens – P. Jawahar	10.00
62.	Handbook of Museum Technique – A.Aiyappan, S.T. Satyamurti	71.00
63.	Guide to the Fish Gallery – S.T.Satyamurti	65.00
64.	Guide to the Lizards, Crocodiles, Turtles and Tortoises exhibited in the Reptile Gallery – S.T.Satyamurti	55.00
65.	Guide to the Galleries of Foreign Animals, General Zoology, Skeletal Exhibits and Amphibians --S.T.Satyamurti	50.00
66.	Guide to the Snakes Exhibited in the Reptile Gallery – S.T.Satyamurti	20.00
67.	Guide to the Invertebrate Galleries – S.T.Satyamurti	7.05
68.	The Wild Ferns of Madras City and its Immediate Neighbourhood – M.S.Chandrasekar	7.10
69.	Flowering Plants of Madras City and its Immediate Neighbourhood – P.V.Mayuranathan	308
70.	Medicinal Plants (Tamil) – M.N.Pushpa	10.00

71.	Special Features of Siddha Medicine (Tamil) - M.N.Pushpa	25.00
72.	Guide to the Principal Exhibits in the Geological Galleries – E.George Jesudosan	13.55
73.	Coins of India Through the Ages – P.N.Mohandoss	10.00
74.	Temples of Erode District (Tamil) – V.Jeyaraj	70.00
75.	Handbook on Preservation of Botanical Specimens – M.N.Pushpa	21.00
76.	Preservation of Records (Tamil) – V.Jeyaraj	15.00
77.	Documentation on the Cannons in the Government Museum, Chennai (Madras) – R.Kannan I.A.S., and R. Balasubramanian	50.00
78.	Whales (Tamil) – J.R.Asokan	10.00
79.	Holistic Approach to Dating in Ancient History, Especially Indian History – R.Kannan, I.A.S.,	35.00
80.	Crocodiles (Tamil) – J.R.Asokan	15.00
81.	Scientific Facts about Snakes (Tamil) – J.R.Asokan	20.00
82.	An Introduction to the Chemical Conservation and Research Laboratory – V.Jeyaraj	5.00
83.	Medicinal Plants used in the Siddha System of Medicine – M.N.Pushpa	15.00
84.	Snakes An Introduction – J.R.Asokan	10.00

85.	Restoration of Oil Paintings from Madras Christian College – V.Jeyaraj	15.00
86.	Guide to the Government Museum, Erode (Tamil) – V.Jeyaraj	15.00
87.	Guide to the Government Museum, Nagapattinam (Tamil) – V.Jeyaraj, J.R.Asokan and K.Saravanan	10.00
88.	Government Museum, Nagapattinam – An Overview - V.Jeyaraj, K.Saravanan	25.00
89.	Iconography of the Jain Images in the Government Museum, Chennai (Madras) – R.Kannan, I.A.S., and K. Lakshminarayanan	200.00
90.	Proceedings of the Seminar on Our Role in Protecting Cultural Heritage – R.Kannan, I.A.S., V.Jeyaraj, J.R.Asokan, and R.Balasubramanian	70.00
91.	Nayak Sculptures of Virudhunagar District (Tamil) – K.Lakshminarayanan	52.00
92.	Manual for Disaster Management in Museums – R.Kannan, I.A.S.,	
93.	Manual for Disaster Management in Museums (Tamil) – R.Kannan, I.A.S.,	
94.	Museum's Journal (October 1999 to March 2000) – R.Kannan, I.A.S., V.Jeyaraj and K.Sekar	40.00
95.	Museum's Journal (October 1999 to March 2000) (Tamil) – R.Kannan, I.A.S., V.Jeyaraj and K.Sekar	40.00
96.	Museum's Journal (April 2000 to September 2000) – R.Kannan, I.A.S., V.Jeyaraj and K.Sekar	40.00

97.	Museum's Journal (April 2000 to September 2000) (Tamil) – R.Kannan, I.A.S., V. Jeyaraj and K.Sekar	40.00
98.	Museum's Journal (October 2000 to March 2001) – R.Kannan, I.A.S., V. Jeyaraj and K.Sekar	50.00
99.	Museum's Journal (October 2000 to March 2001) (Tamil) – R.Kannan, I.A.S., V.Jeyaraj and K.Sekar	50.00

Articles Published

Dr. R. Kannan Ph.D., I.A.S., Commissioner of Museums

1. A Participatory Approach to Modernisation of Two Galleries and Provision of Virtual Museum in the Government Museum, Chennai - Museum's Journal, Government Museum, Chennai, Volume 5, May 2001.

Thiru. K. Lakshminarayanan, Curator, Education Section

1. "Indian Terracotta" - Museum's Journal, Government Museum, Chennai Volume 5, May 2001.

Thiru. Dr. V. Jeyaraj, Curator, Chemical Conservation and Research Laboratory

1. "Para Museums", Museum's Journal, Government Museum, Chennai, Volume 5, May 2001.
2. "Preventive Conservation", Museum's Journal, Government Museum, Chennai, Volume 5, May 2001.
3. "Museums, Galleries and Memorials in Tamil Nadu", Journal of Indian Museums, Vol. IV, April 2001.
4. "Tamil Nadu Museums in the Promotion of Tourism", Journal of Indian Museums, Vol. IV, April 2001.
5. Pamphlet – Care of Museum Objects, 2001.

Thiru. P. Jawahar, Curator, Zoology Sections

- “Loris As a Medicine” - Museum's Journal (English), Government Museum, Chennai, Volume 5 May 2001.

Thirumathi. M. N. Pushpa, Curator, Botany Section

- “Algae” - Museum's Journal (English), Government Museum, Chennai, Volume 5, May 2001.

Thiru . R . Balasubramanian, Curator, Archaeology Section

- “Asta Maha Pratiharya” - Museum's Journal (English), Government Museum, Chennai, Volume 5, May 2001.

Dr. J. Raja Mohamed, Curator, Government Museum, Pudukkottai:

- “Indigo Export From Pudukkottai to England in 19th Century”-Museum's Journal (English), Government Museum, Chennai, Volume 5, May 2001.

Thiru. P. Sam Sathiaraj, Curator, Government Museum, Madurai

- “Iconography of the Treasure-trove Bronzes from Anaimalai Near Madurai” - Museum's Journal (English), Government Museum, Chennai Volume 5, May 2001.

Dr. C. Maheswaran, Curator, Government Museum, Coimbatore

- “Koothaandai Noambi: A Case for Cultural Pluralism In Tamil Folklore”- Museum's Journal (English), Government Museum, Chennai Volume 5, 2001.

- "Folk Religion of fisher folks of Nagappattinam District : An Introduction" - Museum's Journal (Tamil.), Government Museum, Chennai Volume , May 2001.

Thiru. A. Periasamy, Curator, Government Museum Palani

- " Natya in the South Indian Temple Inscriptions" - Museum's Journal (Tamil.), Government Museum, Chennai, Volume 5, May 2001.

Thiru C. Govindarajan, Curator, Government Museum, Virudhunagar

- "Origin of Dravidian Order Pillar"-Museum's Journal(Tamil.) Government Museum, Chennai, May 2001.
- "Origin of Dravidian Order Pillar" - Museum's Journal(English) - Government Museum, Chennai, May 2001

Thiru. N. Soundara Pandian, Curator, Government Museum, Udhagamandalam

- "Sivalaya Ottam in Kanaykumari District" - Museum's Journal (Tamil.), Government Museum, Chennai, Volume 5 May 2001.

Thiru.J.Mullai Arasu, Curator, Government Museum, Erode

- "Treasure-trove objects of Diamond Jubilee Matriculation School, Gobi". Museum's Journal (Tamil)- Government Museum, Chennai, May 2001.

Research Activities

1. Finger-printing of South Indian Bronzes in collaboration with the Indira Gandhi Center for Atomic Research Kalpakkam (Chemical Conservation and Research Laboratory and Archaeology).
2. Holography of Bronzes in collaboration with the Centre for Laser Technology, Anna University, Chennai (Chemical Conservation and Research Laboratory and Archaeology).
5. Dr. J. Raja Mohamed, Curator, Government Museum is continuing the research on the Minor Ports that Nourished in the Sea - Shore Stretch of Pudukkottai District. Search for data from Madras Archival records of the English East India Company is in progress.
6. Dr. C. Maheswaran, Curator, Government Museum, Coimbatore has undertaken a research project on "Tribal Arts and Crafts of Coimbatore District" with the objective of documenting the tribal arts and crafts of Coimbatore tribes such as Irular, Kadar, Malasar, Pulayar, Valaiyar.

Reports

Dr. V. Jeyaraj, Curator, Chemical Conservation and Research Laboratory

1. Report on the Materials of Yogi Ramsurat Kumar in the Ramsurat Kumar Ashram, Thiruvannamalai.
2. Report on Rock Art in Tamil Nadu.

Dr. C. Maheswaran, Curator, Government Museum, Coimbatore

1. Research report submitted on "Rock Art Sites of the Nilgiri District" to the Directorate of Museums.

Conservation Work

Ten bronzes, ten wood carvings, ten stone sculptures, ten leather puppets, ten iron weapons, ten tribal materials, two hundred copper coins, one hundred silver coins, ten pieces of potteries, five oil paintings, two water colour paintings, for the Government Museum, Chennai and two bronze icons for the Government Museum, Sivagangai were suitably conserved.

Six paper prints from Mr. Gopinath and one acrylic colour painting from Mr. Modhi were suitably treated and conserved on consultancy basis. One photograph and one oil painting from the State Department of Archaeology were suitably treated and conserved.

All the district museums were visited and the current conservation status was assessed in order to advise the course of action to be taken by the respective Curators of the museums.

All the bundles of palm leaf manuscripts in the Museum collection . were given preservation by the Curator and museum staff at Government Museum, Palani .

Staff Changes

Thiru. C. Govindaraj, Curator, Government Museum, Udhagamandalam transferred and posted as the Curator, Government Museum, Virudhunagar and he joined duty on 19-4-2001

Thiru. N. Soundara Pandian, Curator, Government Museum, Kanyakumari transferred and posted as the Curator, Government Museum, Udhagamandalam and he joined duty on 16.04.2001.

Thiru. V. Anbalagan was newly appointed as Junior Assistant on 25.06.2001.

Tmt. R.D. Thulasi Brinda, Curator, Krishnagiri re-joined duty from her leave and relieved Thiru. P.Kasilingam, Curator, Government Museum, Salem from additional charge on 20.4.2001

Thiru. T.Pakirisamy, Curator, Government Museum, Sivagangai Is holding additional charge of Government Museum, Ramanathapuram from 07.04.2001

Tours Undertaken

Dr. R. Kannan, Ph. D., I.A.S., Commissioner of Museums

- | | |
|---------------------------|--|
| 14.04.2001-
21.04.2001 | Inspected Government Museum, Coimbatore;
inspected Government Museum,
Udhagamandalam and inspected Government
Museum, Palani |
| 25.04.2001-
03.05.2001 | Attended Seminar in the All India Museum
Association of India held at Nasik and presented
the paper and visited the Ajanta and Ellora cave
paintings. Visited the Anjaneri Numismatic
Museum at Nasik. |
| 06.05.2001-
07.05.2001 | Tour to Tiruvannamalai to study the sculptures
in Tiruvannamalai Temple and also the artefacts
of Yogi Ram Suratkumar. |
| 02.08.2001 | To study the prehistoric Rock Art site known as
'Ezhuthu Paarai', located nearby Vellarikkombai
Kurumba tribal hamlet near Mamaram at
Kotagiri Taluk of the Nilgiris. |
| 03.08.2001 | To visit the prehistoric Rock Art site known as
'Thodhavan Paarai', situated near Pikkapathy |

Mound Toda tribal settlement nearby Iduhatty at Kotagiri Taluk of the Nilgiris.

- 16.08.2001- Inspected Government Museums of Sivagangai,
20.08.2001 Ramnad and Kanyakumari.
Inspected the historical sites of Vettuvankoil, Kazhugumalai, Udayagiri Fort and inspected the archaeological office in Nagercoil.

Thiru. K. Lakshminarayanan, Curator, Education Section

- 25.04.2001- Attended Seminar in the All India Museum
03.05.2001 Association of India held at Nasik and presented the paper and visited the Ajanta and Ellora cave paintings. Visited the Anjaneri Numismatic Museum at Nasik.
02.08.2001 To study the prehistoric Rock Art site known as 'Ezhuthu Paarai', located nearby Vellarikkombai Kurumba tribal hamlet near Mamaram at Kotagiri Taluk of the Nilgiris.
03.08.2001 To visit the prehistoric Rock Art site known as 'Thodhavan Paarai', situated near Pikkapathy Mound Toda tribal settlement nearby Iduhatty at Kotagiri Taluk of the Nilgiris.

Dr.V. Jeyaraj, Curator, Chemical Conservation and Research Laboratory

- 02.08.2001- The Curator undertook a study tour to different
03.08.2001 parts of Tamil Nadu to study the Rock Art. He also undertook tours to all the twenty district museums to assess the current status of museums on the conservation point of view.
25.04.2001- Curator visited the Ajantha Caves and Ellora
03.05.2001 Caves and studied the condition of the paintings and sculptures. Visited the Anjaneri Numismatic Museum at Nasik

Thiru M. Mohan, Curator, Contemporary Art Gallery

- 25.04.2001- Attended Seminar in the All India Museum
03.05.2001 Association of India held at Nasik and presented the paper and visited the Ajanta and Ellora cave paintings. Visited the Anjaneri Numismatic Museum at Nasik.

Thiru. R.Balasubramanian, Curator, Archaeology Section

- 10.07.2001- Tour to Kolkata in connection with the Nehru
14.07.2001 Trust- Small study Research Project work and studied the Educational activities of Indian Museum, Kolkata and Birla International and Technological Museum, Kolkata.
01.09.2001 Accompanied the Commissioner of Museums to Poondi Archaeological Museum and studied the collection and the display of artifacts there.

Thiru. J. R. Asokan, Curator, Design and Display Section

- 10.07.2001- Tour to Kolkata in connection with the Nehru
14.07.2001 Trust- Small study Research Project work and studied the Educational activities of Indian Museum, Kolkata and Birla International and Technological Museum, Kolkata.
01.09.2001 Accompanied the Commissioner of Museums to Poondi Archaeological Museum and studied the collection and the display of artifacts there.

Thiru M. Gandhi, Curator, Government Museum, Vellore

- 25.04.2001- Attended Seminar in the All India Museum
03.05.2001 Association of India held at Nasik and presented the paper and visited the Ajanta and Ellora cave paintings. Visited the Anjaneri Numismatic Museum at Nasik.

**Thiru.P. Rajamohan, Curator, Government Museum,
Tiruchirapalli**

- 18.6.2001 .To inspect the bronze of Muruga which was told to have appeared by itself on a foot hill near Manapparai.
- 25.7.2001 To participate in the meeting to study the Developmental aspects of Tourism in Ariyalur District, conducted by the District Collector.
- 28.9.2001 To inspect two old temples and a few pieces of broken sculptures at Periamarai village of Ariyalur District.

**Dr. C. Maheswaran, Curator, Government Museum,
Coimbatore**

- 19.07.2001- To study the rare hero-stones (17 Nos.) and a
20.07.2001 Tamil inscription identified at Bandipur National Park, Karnataka State.
- 24.07.2001 To study the Copper Antennae Swords (10 Nos.) unearthed from a stone quarry area nearby Kallankuthu, adjoining Perumalswamykaradu at Anaimalai area of Pollachi Taluk of Coimbatore District and kept at the Taluk Office, Pollachi.
- 02.08.2001 To re-study the prehistoric Rock Art site known as 'Ezhuthu Paarai', located nearby Vellarikkombai Kurumba tribal hamlet near Mamaram at Kotagiri Taluk of the Nilgiris.
- 03.08.2001 To re-visit the Prehistoric Rock Art site known as 'Thodhavan Paarai', situated near Pikkapathy Mound Toda tribal settlement nearby Iduhatty at Kotagiri Taluk of the Nilgiris.
- 05.09.2001 To study the treasure trove gold jewelry

confiscated from Alagumalai village and kept at the Taluk Office, Thirupur.

07.09.2001 To study the hero-stones and Mother goddess identified in and around Kovilpalayam near Coimbatore.

16.09.2001 To carry out an exploratory study at the Silent Valley, to mark the "World Ozone Day".

Thiru. N. Soundara Pandian, Curator, Government Museum, Udhagamandalam

10.07.2001- To inspect the specimens at Government
11.07.2001 Museum, Coimbatore.

27.06.2001 To inspect the confiscated bronzes at Chief Judicial Magistrate Court, Srivilliputhur and submit the report.

Thirumathi R.D. Thulasi Brinda, Curator, Government Museum, Krishnagiri

05.7.2001 Field Exploration - Vepanapalli Village.

20.09.2001 Aroor Taluk Office to inspect treasure trove objects.

Thiru. K. Karunanidhi, Curator, Government Museum, Tiruvarur

20.04.2001 Inspections of Treasure- Trove bronzes at Thiruturaipundi Tahsildhar Office.

24.04.2001 Inspections of Treasure- Trove bronzes at Mannargudi Taluk Office.

**Thiru. K. Saravanan, Curator, Government Museum,
Nagapattinam**

- 20.06.2001 To inspect the Melanagore Village Stone Sculpture Sun god at Nagapattinam Taluk Office.
- 22.06.2001 To inspect the Porumbur and Villiyanallur village treasure-trove objects at Mayiladuthurai Taluk Office.
- 08.07.2001 Annual checking of antiquities in the Government Museum, Thiruvavur.
- 13.07.2001 Inspection of Nalladai, Matthur, and Poraiyar village treasure-trove objects at Tarangambadi Taluk Office.
- 07.09.2001 Inspection of Alakkudi and Thillaividangan village treasure-trove objects at Sirkazhi Taluk Office.
- 11.09.2001 Inspection of Sikar village, unclaimed metal image at Kilvelur Taluk Office.
- 15.09.2001 (F.N) Inspection of Arunthavappulam, Melaisalur and Kolappadu village treasure - trove objects at Thirukkuvalai Taluk Office
- 15.09.2001 (A.N) Inspection of Parvathi Devi Stone Sculpture at Annakkudi village.
- 17.09.2001 Inspection of Whale's Skeleton at Therkkupoigainallur Seashore area.
- 21.09.2001 Inspected and collected 2 Stone Sculptures and one lime mortar sculpture at Palpannaicherry village.

**Thiru. C. Govindaraj, Curator, Government Museum,
Virudhunagar**

- 2-5-2001, To inspect the sculptures at Tiruttangal cave
21-5-2001, temple Sevalpatti cave, Srivilliputhur,
5-9-2001. Vadapatrasai and Andal koil temples.
18-8-2001 To inspect the Vettuvankoil and Jaina sculptures
at Kalugumalai along with the Commissioner of
Museum.
20-8-2001 To inspect the Burial-urn and Sculptures like
Linga, Brahmi, Vishnu and Nandhi at Nadikudi
village in Sivakasi Taluk.
25-6-2001 To inspect the Treasure trove kalasam in the
27-6-2001 Sattur Taluk office and Treasure trove coins in
the Rajapalayam Taluk Office.

**Thirumathi. J.M. Gandhimathi, Curator, Government
Museum, Kanchipuram**

- 20.09.2001 To inspect the Prasanna Venkatesa Perumal
Temple and four stone statues unearthed at
Thirumukkoodal in Uthiramerur Taluk,
Kanchipuram.

Visitors

During the period April 2001 to September 2001 the number of visitors, visited the museums were furnished below including school children.

Chennai	1,51,724
Pudukkottai	49,929
Salem	9,801
Madurai	32,538
Tiruchirapalli	7,701
Vellore	22,954
Erode	3,901
Udhagamandalam	2,500
Cuddalore	2,808
Tirunelveli	10,910
Kanyakumari	2,,863
Krishnagiri	3622
Palani	11,227
Tiruvapur	14, 738
Nagapattinam	4,578
Kancheepuram	4,316
Ramanathapuram	6,199
Sivagnagai	6,950
Karur	3,268
Virudhunagar	2,511

Some of the Press Coverage

GOVERNMENT OFFICIALS are always on tour, mostly handling red tape-related work. But, a group of officials, most of them from the Chennai Government Museum, were on a trip recently that was totally different.

The officials went to the erstwhile South and North Arcot districts besides Pudukottai and Nilgiris to study rock paintings and sculptures of pre-historic and historic periods.

"The trip intellectually enriched us," says the Commissioner of Museums and Archaeology, Dr. R. Kannan, who was the team leader.

Their first stop was Perumukkal, regarded in certain quarters as the only pictographic cave in south India.

This pre-historic place, about 10 km from Tindivanam, is also the third petroglyph site in the country where scripts and symbols have been carved on rocks, the other two being Bhimbetka in Madhya Pradesh and Edakkal in Kerala.

The temple was a dilapidated temple of Lord Shiva with a fortified wall.

"Going by the archaeological finds, the construction of the temple might have started during the Chola era (10th-11th century A.D) with the extension carried out during Vijayanagara period," Dr. Kannan points out.

"The script found in a cave, away from the temple, resemble Indus script," according to Dr. R. Madhivanan, Chief Editor of Tamil Etymological Project.

MADURAI, APRIL 18. The Government Museum and Gandhi Memorial Museum commenced the one-month free summer course in the Gandhi Museum campus, here today.

According to Mr. P. Sam Sathiraj, Curator, Government Museum, Madurai, 20 different courses would be offered including training in painting, Bharathanatyam, Carnatic vocal, playing musical instruments such as veena, violin, flute, mridhangam, photography, karate, yoga, general knowledge, spoken English, Hindi and HAM radio.

As many as 600 students had enrolled, he said and added while the highest number of 100 students enrolled for painting, 70 for the HAM course and

TIRUCHI, AUG. 24. The Cambridge University has launched a project for a study of colonial coinage and maritime trade on the Coromandel coast in the 17th and 18th century.

The Dutch, the Portuguese, the British and the French, who had come to India for trade, established their rule in many parts and issued over 400 coins of different metals and denominations. It was the Dutch who issued the maximum number of coins.

The information was given by Dr. Raja Muhamed, Curator, Government Museum, Pudukottai, on Wednesday, while inaugurating an exhibition of East India Company coins collected by Mr. M. Kandasami, president of the Tiruchi Numismatic Association, and hosted by the Tiruchi Government Museum.

Mr. Kandasami, who exhibited over 150 coins as against 350 issued by the East India Company, said the British had issued coins in the Bengal and Bombay presidencies, similar to those of the prevalent Indian

MADURAI, APRIL 7. The Gandhi Memorial Museum, Madurai, in association with the Government Museum, is to conduct training courses on histrionic talents at the Gandhi Museum campus between April 16 and May 15. In a statement issued here today, Mr. P. Sam Sathiaraj, Curator, Government Museum, said the courses offered comprise painting, Bharatanatyam, vocal, Carnatic, Manipuri, Kathak, Odissi, etc.

Madurai, May 31: Two beautiful hero stones were found at Kulasekarankottai near Vadipatti when a canal was being desilted by the PWD men recently.

One hero stone measuring 140 cm in height and 55 cm in breadth was possessing a sword in his right hand and wearing a turban on his head. On the right side, his spouse was represented with her hands raised. The picture of a tree was also carved very beautifully.

Madurai, June 12:

: An inscribed stone pillar belonging to 13th century during the period of King Sundarapandya was discovered near a ditch adjoining to Mohammed Fatima Girls' High School at Uthampalayam in Thent district on Tuesday.

According to Madurai Government Museum curator P. Sam Sathiaraj and Vedachari, Epigraphist of the State

Udhagamandalam, Sept 1: State Government Art Gallery and Government Museum, twin wings functioning separately at the same rented bungalow owned by the former MP and actress Vyjayanthi Malai on Udhagamandalam-Mysore road here for about a decade, are in effect, withering away due to lack of adequate funds, staff and publicity facilities.

The gallery and museum were established a decade ago under the aegis of Department of Art and Culture with a great purpose of promoting art and culture. The museum was to collect the treasures

Madurai, Aug 2: A memorial stone of a Nayak hero was unearthed from the Valgai bed near Madurai recently.

The stone has been displayed at the Government Museum here.

Speaking to the media persons the curator P Sam Sathiaraj said that the memorial stone belonged to the 17th or 18th century A.D. This sculpture is about two feet in height depicting a Nayak hero and his spouse both seated in the 'Sukhasana' pose. The hero is holding a sword in his hand and his spouse a flower.

The culture of erecting memo-

Appreciation Letters...

Thank you very much for your letter no.2935/2001/E3, dated July 4, 2001. I should compliment you for this excellent publication (Jain Iconography). I will very much appreciate you sharing it widely with Museums.

Dr.R.V.Vaidyanatha Ayyar,
Secretary,
Government of India,
Ministry of Culture, Youth Affairs & Sports,
Department of Culture,
New Delhi-110001

How nice to receive your letter of May 11, 2001 and the news that you have sent us your Bulletin on Mahavira.

As you may know, I am a long standing friend of your institution, having attended Madurai University, done my doctoral field work in Tamilnadu and worked with members of your staff in the past.

I have enclosed some of our recent publications and small publication from an exhibition on India, which I curated here last year.

Stephen Inglis,
Director General,
Research and Collections,
Canadian Museum of Civilization Corporation,
Canada.

WRINKLES

DOCUMENTATION OF THE PROJECT MANAGEMENT PROCESS FOR THE WEB SITE OF THE GOVERNMENT MUSEUM, CHENNAI

By

*Dr.R.Kannan, Ph.D., I.A.S. and J.R. Asokan, Curator for
Design and Display*

Introduction

A web site in these days of global connectivity has become common place. Documentation of the process of creation of the web site of the Government Museum, Chennai is important for posterity to know how it was done and learn both the successes and the mistakes made. As it is often said in management, learning from other's mistakes is less costly than learning from one's own mistakes in terms of both money and trauma. The study of history becomes important because history repeats itself as human beings commit the same mistakes. They do not learn. Indians are often accused of a poor sense of history. The long period of pre-history in our country is due to the Vedic period not having been redacted into written form intelligible to us. It is claimed that the Occident documents every important event. The Museum Administration Reports of the Madras Government Museum, brought out in the British period, are an illustration germane to us. They were discontinued from 1978 AD. This lacuna is now filled in by the Journal, which we publish twice a year in English and Tamil now. It catalogues all the activities of the Chennai museum and the 20 District museums. This paper documents the process and management techniques used to create the Web site for the Government Museum, Chennai. Participatory management

technique has been used as usual. This makes for a Learning Organisation, a key to success in the modern world.

The need for a Web site

A Web site enables the information on the museum, selected important artefacts in its collection sections like Archaeology, Zoology etc to be viewed anywhere in the world. In addition, information on the history of the museum, the sections and artefacts, its activities and publications are also made available. Music and audio can also be added. In short, it serves as a powerful tool to bring audio-visual images and text information to every person from the Arctic to the Antarctic. Today, most important museums have a Web-site. After viewing the Web sites of the Smithsonian, the British Museum, Louvre and the Indian Museum, Calcutta, the Commissioner felt that it was high time that the Government Museum, Chennai had its own Web site. A tour to Calcutta as an Election Observer was also utilised to view the Web site development for the Indian Museum, Calcutta. This was optimum use of the travel expenses incurred in connection with another aspect of an I.A.S. officer's work, viz. election being used productively for the department being currently headed also.

Drawing up plans

The scheme was put up to the Government as a new development scheme (Part II Scheme of 2000 – 2001 budget) and received approval. The cost was arrived at based on the experience of the Indian Museum, Calcutta with whose Director Dr. S. Chakravarti, Ph.D., the Commissioner had several rounds of discussions and also saw the software inspiration during his election tours. This was a very important guide. After careful consideration of this proposal the Government in Tamil

Development and Culture department through the Secretary to Government, Thiru S, Ramakrishnan I.A.S. issued orders for the formation of Web site for the Government Museum, Chennai for an amount of Rs. 5 Lakhs on 25.5.2000 (G.O. No. 146, Tamil Development and Culture Department).

Firming up the procedure for Procurement

The Chennai Museum follows a committee approach in all matters concerning procurement. Members of the committee are the Curators and ministerial staff dealing with accounts. This makes for transparency and also wild allegations do not carry weight since a large number of people are involved. Also, it is not easy to influence the process and sway it away from considerations of buying the best, since too many players are involved. In this case also a committee was formed. It consisted of the Assistant Director of Museums in charge of administration, three Curators and one Assistant (Upper Division Clerk).

While government departments are familiar with the procedure for procurement of physical goods, procuring intangible goods like Web Site was a Greenfield experience. The specifications for the Web site had to be firmed up. To clarify these matters, so that in future problems should not occur to the officials concerned, a letter was sent to the Secretary, Information and Technology (I.T.) Department seeking his guidance. The Secretary, I.T. Department suggested that either the museum could call for Tenders or could execute the project through the state public sector undertaking M/S ELCOT, since it is recognised as procurement agency for computer hardware and software purchases vide G.O. No. 58, Finance BPE department, dated 16.2.99.

Finalising the requirements of the Product, viz. Web site

In order to finalise the specifications for the Web site, an exploratory brain storming meeting was organised in the Government Museum, Chennai on 26.6.2000 and Computer software professionals, experts from the nodal government agency for computerisation, National Informatics Centre and ELCOT were invited for this meeting. The experts and software developing companies ranged from those based in Calcutta, who had developed the site for museums there, those who developed for mega temples like Tirupati, companies from Bangalore and of course Chennai, including a central public sector undertaking. This ensured spreading the net wide for consultation and picking of brains.

In the meeting the main talk focussed on specifications for:

1. Designing and configuration of the project
2. Hosting of the Web site and
3. Future modifications

A demonstration on Web site work was conducted by the participant companies on their previous Work. Out of this, the museum personnel appreciated the demonstration conducted by ELCOT. To further firm up the configuration of the project, more details about Web site development were collected from Southern Railway, which already had a Web site in operation and from the firm based in Calcutta. By the end of August, the configuration of the project was finalised.

The main points mentioned in the specifications of the configuration were:

1. The work includes creation of Web site, maintenance and hosting.
2. The Web site should include a minimum of 100 Web pages of design and development with graphics, photographs, audio, video clips, animation works, data base and image posting etc. The Web pages should also include a virtual tour of the galleries.
3. The Web site has to be designed so that visitors may download the files.
4. The development cost of the Web site should include rent of server, hosting of pages and site.
5. The supplier undertaking the work has to host the Web site free of cost for a period of two years from the date of actual hosting of the Web site.
6. The supplier should hand over the entire source codes / files etc., to the Commissioner of museums in CDs or in any other suitable electronic media for subsequent use by the department.
7. Bandwidth capacity of the Web server may be Optical Carrier 3 or higher (i.e. $55 \times 3 = 155$ Mbps bandwidth; minimum 135 Mbps) US based server or server on par with US standards. The usual bandwidth available in India at that time was up to 16 Mbps only.
8. The capacity of the Chennai Museum Web site must be of minimum 100 MB upgradable to 1 GB.
9. Two Domain names must be registered as follows
10. The Govt. Museum, Chennai or govtmuseumchennai.org.
11. Ten e-mail accounts in the museum Web site have to be provided.
12. Site maintenance should include quarterly updating.
13. The work of photography would be very important and it would be at the cost of ELCOT. It was stressed that professional photographs of the museum objects with lighting would have to be taken.

14. Placing of order

The procurement committee recommended that the order might be given to ELCOT, due to the following reasons:

1. The Government have issued orders stating that the ELCOT may be considered as a procurement agency for computer software and hardware purchase
2. The Demo conducted by the ELCOT was satisfactory.
3. In greenfield projects, it is better to go with a public sector organisation than with the private sector in the interest of avoiding problems and allegations later on.

So the Department order regarding Web site work was given to ELCOT on 8.12.2000. ELCOT has been informed to complete the work before 31.3.2001.

Provision of information in the form of text material for the Web site

The main problem stated by one of the firms from Eastern India was that information was not forthcoming as the museum staff worked fixed hours or had inadequate material. The Chennai museum is well documented and has so many publications in the past 150 years of its existence that Curators had mostly only to cull out the information from the published guides and in a few cases only they had to go to the Accession Registers.

Anyway, it was promised by the Commissioner to the vendor that information flow would not be a problem.

Planning for supplying the information required for the Web Site

Creation of Web site work was in 5 stages

1. Preparation of topics for the Web site.
2. Preparation of Text and subsequent typing work.
3. Taking photographs of materials or specimens.
4. Preparation of material for Virtual Tour, Video clips- audio and video, background music and commentary, Slide show.
5. Launching of Web site.

In connection with the preparation of topics, Web sites of other museums like British museum, London; Prince of Wales museum, Mumbai; Victoria memorial hall and Indian museum, Calcutta have been browsed.

Planning the design of the Web Site

After going through all these procedures it was decided to have ten topics for the Web site under the following headings.

1. History of the Chennai Museum
2. General Information about the Chennai Museum
3. Site plans and galleries map
4. Various Departments / Sections
5. Virtual tour
6. Galleries
7. Educational Activities
8. Publications
9. District Museums
10. Feed back

The text with pictures was put on Hyper Text Media Language (HTML) while, the Virtual Tour was in Virtual Reality Media Language (VRML) using Cosmo Player, a downloadable software.

The laborious process of gathering and feeding in the information

The text for the Web site was prepared by the Curators well in advance and it was handed over to ELCOT for getting it typed. The problems faced in text corrections were missing sentences and missing letters and these problems were sorted out after making many corrections. Some of the Curators like archaeology had given so much material that along with photographs it came to 300-400 pages of hypertext. In some cases like information on past publications, the problem was absence of systematic documentation resulting in scrappy availability. The available information was supplemented by accessing the British Library Web site. The corrected material was fed into the computers at the museum by the Curators sitting alongside the data entry operators from ELCOT. They worked late hours every day for sustained periods of up to 4 months. Still, after every iteration there were complaints that fresh mistakes had occurred or old mistakes had not been corrected. So, a print out was taken on the museum printer and corrections were made by the Commissioner in respect of six major collection sections which ran to 1500 pages of typed matter and by the Curator, Chemical Conservation for another 800 pages. This entailed working till midnight even on tours. The problem of mistakes led to a delay of at least four months in the project schedule. Insistence on Zero Error led to this delay. **In 1400 pages, some small mistakes might still lurk, but it is felt that it is almost as near Zero- Error as laborious human effort could make it. It was the spirit of participation of everyone in creating something new and taking the museum to a different level of technology that made people work so hard.**

Participatory approach to collection of visual information (Photography)

A museum Web site is exciting to view only because of its pictures. Regarding photography it was decided to take the photographs by digital method. Digital camera brought by ELCOT persons in the early stages of the work was not satisfactory. This was pointed out by the Commissioner and Curators, that there could be no compromise on quality as already stated in the discussion stage. Hence another camera with a capacity of 2X pixel capacity was brought in and using this photographs were taken. Even with this camera it was found that the photographs were not up to the mark. Since a higher capacity digital camera could not be obtained by ELCOT, conventional photography was used. This delay set back the project schedule by 4 to 5 months. It also became, to use a typical English understatement, the matter of a difference of opinion. At this stage, the Managing Director who had newly joined paid a visit to the museum to learn the problems. A General Manager was placed directly in charge. He organised photography using proper lighting using a conventional Single Lens Reflex camera. The photos were taken every day in sunlight and artificial light. They were shown to the museum staff at the end of each day after printing the positives. The photos that met standard were selected. Selection was done by the Curators, the Personal staff of the Commissioner and even ministerial staff who happened to be present at the time. This was again a Participation in action. It had a very good effect of ensuring total objectivity in acceptance and rejection. Every one understood that what was desired was the best and there was no hidden agenda. This atmosphere of transparency and fairness ensured that there was no bitterness even among the ELCOT personnel or the photographers, when there was a rejection. No one person was taking a decision. It was a consensus. It is

remarkable that consensus was arrived at in a minute or two on most occasions. Only in the case of a few photographs, there was a debate and then also a group participatory decision was taken. The role of the Commissioner once the process got started was merely to provide the facilitating structure. He became a **Facilitator**.

Regarding the preparation of Virtual tour, first it was decided to introduce the Virtual tour in many galleries. There was a problem of space once only 100 MB had been contracted. Therefore, on the advice of ELCOT personnel, it was decided to limit to the world famous bronze gallery. In order to give a real touch to the virtual visit, video clips of the galleries has been provided. This was also a Learning experience for the museum. First, the video was taken using the video camera with the museum. Then another analogue camera was used. The resolutions with both were found not world class. Then a digital video camera (Resolution of 580 lines, Panasonic Professional DV C 200 3CC) only one of three available in Chennai was hired with a Curator coming in at dawn to take some of the shots of the National Art gallery. Each shot was carefully planned. Then the clips were edited and placed in sequence by a group of Curators and the Commissioner. The ELCOT personnel were present at these sessions, which went late into the night. The commentary and the background music were provided by the Commissioner. It was first recorded in the museum itself. It was put on the Web. It was found not to be up to the mark. Then it was recorded in a sound studio. The video clips were put in two formats High Bandwidth for visitors in advance countries and Low Bandwidth for other countries. A slide show of some of the Zoology exhibits has also been organised. Still, there was Wow and Flutter in the background music and low visibility in the video clip of the Ravi Varma picture gallery lit by Fibre Optic method, a first for India. This was again set right by reediting.

Thus, after many iterations of doing, seeing and evaluating and sometimes re-doing, the Web site was made ready. The pace of the project picked up after the General Manager was put in charge. He interacted daily with the Commissioner paying many personal visits to learn the problems at first hand. This ensured that the exasperating problems of redoing the same operation of correction of mistakes in text matter several time saws sorted out.

Completion of the project

The Web Site was put out as a draft site on 15-9-2001. The site was evaluated for mistakes, which were corrected. It became a full-fledged site ready for inauguration on 18-12-2001 by the Honourable Minister for Education, Government of Tamilnadu. It has a size of 122 Megabytes. It contains 1400 pages of A-4 size corresponding to 122 Megabytes of electronic size. There are 52 files less than 250 Kilobytes, 15 files between 250-300 KB and 118 files of size greater than 200 KB, the total number of files being 185 files in HTML format. In addition there are VRML files for the Virtual Tour of the Bronze Gallery, Slide Show and Video Clips. The Clips have been provided in two bandwidths – low for Indian viewers with ordinary telephone line connections of usually 33 KBPS capacity though the modems are usually 56 KBPS and high for ISDN Indian viewers and foreign viewers whose bandwidth goes up to 2 MBPS and more.

The future

Continuos upgrading and updating have to be done. Feedback has to be replied to promptly by the Curators concerned. Modifications have to be done in the structure like splitting up of pages consisting of a large number of pictures in order to enable

viewing in low bandwidth areas and those with 33.6 Kbps modems quickly.

Participatory Management Approach

The participatory approach enabled Curators to consult each other and learn from each other since the computers were put in the same room. They initially wanted the computers to be put in their individual rooms, which was resisted by the Commissioner. It is surmised that the computers would have remained mere ornaments with low usage due to lack of competency in handling them. The synergy created by mutual learning would have been absent. In the case of the bigger problems, which the Curators were unable to solve, the Commissioner would be called in and usually then the problems would get solved. Even if this failed, the Commissioner would use the services of hardware repair personnel to solve the software handling problems. This solved the problem of having no budget for solving software handling problems. The role of the Commissioner became that of a Facilitator, rather than an order-issuing manager, the authoritarian style usually associated with government. However, targets for completion were set at meetings of Curators and reviews made. Peer pressure and competition was an important factor in ensuring adherence to deadlines. With the suppliers, since they were a public sector, a Participatory style was followed. It did not work out at one stage, when the time schedule slippage became very bad, there was need to change to the traditional management tone of complaints. Once the problem was sorted by higher management level intervention, the style reverted to participation. Then the type of photography, video audio and other parameters of the Web site to ensure quality were monitored by group discussion and arriving at a consensus. There was the widest possible participation with even the personal staff and ministerial staff etc participating.

Therefore, the Participatory style usually works, but in the absence of rewards and negative consequences, does not yield results in the Indian context.

Conclusion

The Participatory approach has resulted in one of the biggest Web sites in the world for any museum enabling our museum with its limited resource base to be counted along with the likes of the giants such as Smithsonian and British Museum. It has generated a sense of pride and ownership of the museum's achievements in the curatorial and non-curatorial staff among whom there is a divide usually. Curators who had been computer illiterate have been forced to learn to operate computers albeit with varying degrees of competency. Some have become almost experts. They have learnt to master application software. They and the museum technicians like photographers etc have had their skill and equipment levels upgraded to world class standards.

The museum, which did not have a single working computer two years ago, has been almost fully computerised. More important the systematic thinking, which characterises computer culture, has been internalised by a lot of Curators and staff. The museum and its important artefacts are available for viewing from any corner of the world. Documentation of the publications published in the past 150 years for some of which there was no record have been documented. There has been exhaustive documentation and photography, which will prove very useful to posterity. In true Participatory style, suggestions for information on publications etc left out and feedback have been invited. This will enable filling in of gaps.

The main mission for a museum is preservation of the past and knowledge for posterity and its ready access through its display. This exercise in Web site development has enabled the preservation in electronic form of the artefacts and its exciting visual display and sharing throughout the world.

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THE IDOL OF BALAKRISHNA IN THE GOVERNMENT MUSEUM, CHENNAI – A SYMBOL OF THE HALCYON DAYS OF THE VIJAYNAGAR EMPIRE

By

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Introduction

Like human beings have a horoscope of rise, plateaux and fall, it appears that empires, places and even temples and the idols installed in them have periods of glory and obscurity. We are familiar with the rise and fall of great empires like the Roman Empire, the Mughal Empire and so on. South India has also seen the rise and fall of great empires like the Pallava, Chola, Chalukya, Satavahana and Vijaynagar Empires. The story of an idol of Krishna in the collection of the Government Museum, Chennai is very interesting as the rise and fall of the Vijaynagar Empire is intertwined with it. The idol is a Balakrishna, since it depicts Krishna as a boy.

The idol has been put on display in the sculpture gallery in the entrance building. In this building, since chronological display prevalent circa 1930 AD has been adopted, it has been placed in its appropriate time slot. There was no indication to show that there is anything special about it. When this writer visited Hampi (formerly Vijaynagar, the capital of the famous Vijaynagar Empire) recently to study its sculptures and architecture, he was astounded to hear

when going round the Krishna Temple that the main idol of Krishna is in the Government Museum, Chennai. The temple is now in ruins after Hampi was sacked in 1565 AD after the Battle of Tallikota (Rakshasi-Tangadi to be more accurate) when the Vijaynagar army was defeated. It appears to have been brought to the museum in the early years of the 20th Century AD according to the earliest Accession Register available.

History of the idol



Krishna Temple, Hampi built by
King Krishna Deva Rava

This idol was taken by King Krishna Deva Raya from Udayagiri (Nellore District) and installed in the Krishna Temple built at Hampi (Vijaynagar) to commemorate the victorious campaign of King Krishna Deva Raya against the Gajapati King of

(Ganjam) Orissa, King Prataparudra. It was worshipped by Krishna Deva Raya, since it symbolised his triumphant war campaign. He built a special *mandapa* for it in the Krishna Temple built by him at Vijaynagar (Hampi) (Directorate of Archaeology and Museums, Government of Karnataka, 1995, p.41). The temple itself was built for this purpose according to Gravely et. al (Gravely et. al., 1939, p.24). There is reference to an inscription dated 1513 AD (Devakunjari D., 1998, p.48 from Annual Report on South Indian Epigraphy, 1889, Nos.25 & 26) in the temple that during his Orissa campaign, Krishna Deva Raya brought an image of Balakrishna

from a temple in Udayagiri. He installed it in a *mandapa* (pillared hall) in this temple. This temple appears to have been the first construction of the 16th Century AD in Hampi (Verghese, Anila, 2000, p.80).

The west face of the *gopura* (temple entrance tower) of the Krishna Temple has a bas relief scene of warriors with shields and elephants and horses. This probability is a reference to the Orissa campaign. We saw the carving during our visit. It must have seen days of great glory as the mascot of the triumphs of King Krishna Deva Raya. It has been mutilated by having both its hands removed. The temple itself has been partially restored by the Archaeological Survey of India.

Year of installation

Reference to the Annual Report on South Indian Epigraphy of 1889 at the Archaeological Survey of India Epigraphy Section Library reveals that the year 1513 AD has not been mentioned in the deciphered record. The year is mentioned in the District Gazetteer, Bellary published by W.Francis in 1904.

The Nellore Gazetteer (up to 1938 – Volume A published in 1942) states that Udayagiri (ancient name Kondayapalem) is a hill fort situated 60 miles from Nellore Town. The Krishna Temple is situated on the south of the village and belongs to the Pallava type. The image of Krishna was removed by Krishna Deva Raya to Vijaynagar after the capture of the fort in 1514 AD after a siege of one year. From this it is clear that the campaign against the Orissa King Prataparudra began in 1513 AD, but the year of capture was 1514 AD. Hence the statue could have been installed only after 1513 AD. It has recorded by Gravely and Sivaramamurti (1999) as having been installed in 1515 AD at Hampi (Plate IX).

The inscription (nos.25 & 26 of 1889 AD) in the Krishna temple is in Kannada and Sanskrit. In the Sanskrit version the year

is referred to as '*Rasa-Agni-Veda-Vidhu*' (Chronogram usually used in Persian, but used here in Sanskrit), which is to be deciphered as 1436 Salivahana Saka era. '*Rasa*' is to be read '*Shadrasa*' used for denoting 6 (though some people consider it as 9 Rasas usually in performing arts, but in literature it is only 6 Rasas). Adding the usual 78 years one gets, 1514 AD as the year of the inscription. The day is referred to as '*Kartheya divasa*' which is to be interpreted in the chronogram form as the 6th day of the week i.e. Friday. The Kannada version gives the year as 1435 Saka in numerals in the old form of letters i.e. each letter represents a numeral (Katapayadi system) and Bhava in the South Indian cycle of 60 years. The month is Phalguna and the day is Sukra i.e. Friday. Referring to Swamikannu Pillai's Ephemeris and Indian Chronology, after making tedious calculations, we find that the date is 16-2-1515 AD (Swamikannu Pillai L.D., 1911) (Swamikannu Pillai L.D, 1922, p.232). The day triangulates with Friday as given in the Sanskrit portion of the inscription. The year of the Sanskrit version also tallies. **Therefore, the year of installation must be taken as 1515 AD as a result of the present research. Astronomical calculations do indeed shed new light.**

Iconography of the idol

The idol of Krishna is noted in the Accession Register of the Archaeology Section as No.2603. It is copied from the old General Accession Register (entered as No.66 of 1916): "Image of Krishna seated with the left leg on the seat and the right hanging down. His left leg is resting on his left thigh. Unfortunately both the hands of the image are broken and missing except the fingers of the left hand. The hair of the Krishna is arranged in a knot over his head and the *Kundalas* (large ear rings) are shaped like small *Sankhas* (conch); The height is recorded as 93 cm and breadth – 48.5 cm (the height is 95 cm; length is 50 cm and width is 39 cm when measured by us on 4-7-2001); From the Krishna temple at Vijaynagar, Hampi ruins, Bellary District; Vijaynagar Raj".



Idol of Balakrishna in the Government Museum, Chennai

During observation now, it is noticed that the knot is broken at the top of the hair-do. The knot would probably have accommodated the peacock feather traditionally found in the iconography of Krishna. In the left hand palm, the little finger alone remains on the idol. The rest has been removed by vandals. The figure has curly hair. There are shoulder tassels. A *Tali* chain with tiger claws (*Pulinagam*) (Jayadev C.J., 1979, p.19) is also seen. He feels that such *Talis* are ornament worn by boys since the Tamil *Sangam* era (circa 2nd century BC and before). One more chain with a pendant is also seen.

Udarabhandha (chain ornament around the stomach) *Channavira* (chain ornament around the chest) are seen. The Krishna wears a *Katibandha* (chain ornament around the waist) with *kinkinis* (small bells suspended from the chain). The navel is prominent. The nose is disfigured slightly. The face wears a smiling expression. Thy eyes are big (lotus like), which conforms more to Pallava/Kalinga iconography. The shape of the Vaishnavite (worshippers of God Vishnu) U shaped mark on the forehead of the Krishna (*Urdhvapundaram*) reminds one more of the Orissa culture of Chaitanya Mahaprabhu. The right feet rest on a lotus pedestal (*padma peetah*) at an angle of 60°. *Padasaras* (a type of anklets with chain) and *Tandai* (Tamil - ankle ornament worn by warriors) are found on the figure.

The idol is made of a single stone. A close examination shows that the left leg does not rest on the left thigh as described in the Accession Register. In the sculpture, the right leg is seen resting

on the lotus pedestal. The left-hand palm is resting on the thigh. The fingers of the left hand except the little finger are available, while they are recorded as missing in the Accession Register.

Conclusion

Confusion in dates and the cause of events like the date of the installation of the idol or whether the temple or only a *mandapa* was built to install it is endemic to Indian history. **Triangulation with astronomical data often helps to remove them.**

A sobering thought occurs that oblivion overtakes not only proud kings and their statues, but of even the idols of the Gods worshipped by them or associated with them. This is indeed a sobering thought. One is reminded of Ozymandias, the famous sonnet of P.B.Shelley, which states:

'I met a traveller from an antique land
Who said: Two vast and trunkless legs of stone
Stand in the desert. Near them, on the sand,.....
And on the pedestal these words appear:
"My name is Ozymandias, king of kings:
Look on my works, and ye mighty, despair!"
Nothing beside remains....
The lone and level sands stretch far away'.

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SOME CULTURAL PARALLELS FOUND IN MAYAN AND HINDU CULTURES

By

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Introduction

One has long heard and read that there are great similarities between the American indigenous cultures which got the name Indian especially in North America due to the wrong conclusion of Columbus that he had reached India. But the name American Indian stuck on. Now with more research archaeologists and anthropologists are able to distinguish the several civilisations and their peoples. The Incas, Mayas and Aztecs are the more famous ones. The parallels are drawn by writers on the basis of iconography, the use of astronomy and even the geometrical patterns. There is reference to Sun worship common to Hinduism and the Incas, Mayans etc (Kannan Dr.R., 2000, p.18). The geometrical patterns drawn by the Incas on the ground in Peru are perceivable only from the sky and resemble the *Chakras* like *Sri Chakra* in Hindu *Tantric* worship (Daniken Eric von, 1993). It has been found that the Mayan pyramids like the one at Chichen Itza are aligned to the Sun at a particular position like the equinox etc (Kannan Dr.R., 2000, p.33). Even the seven sages who taught mankind all knowledge have a parallel in the *Sapta Rishis*, which means seven sages when literally translated from *Sanskrit* to English. Much of the knowledge on the ancient cultures of South America was destroyed by the Spanish conquistadors in their mistaken

religious zeal. The theory that is being put forth by James Hancock is of a maritime civilisation, which involved exchange of ideas, and actually there were seven wise men who taught mankind (From Kannan Dr. R, 2000, p.5). A booklet from the Canadian Museum of Civilisation written by Nancy Ruddell sent to this writer by Stephen Inglis, the Director- General provided the trigger for this paper. It contains so much material, which tempts one to conclude that Mayan and other South American ancient cultures and Hindu culture are a part of the same ancient culture. But one can safely conclude that there has been a lot of exchange of ideas. Since the Hindu culture can be dated at least to 8000 BC, the ideas may have originated in India and carried to South America through teachers who might have sailed on ancient ships. We examine in this paper, the numerous evidences in the field of mythology, astronomy and astrology, iconography of the archaeological artefacts recovered based on which we draw this conclusion, which at might first glance look rather far-fetched.

Parallels in Early History

About 6 million Mayas live in five countries (Mexico, Guatemala, Belize, Honduras and El Salvador) of Meso-America region. Their cultural history goes back to 5000 years. They are supposed to have settled in the Yucatan peninsula 11000 years ago as a nomadic people (Ruddell Nancy, 1994, p.2). This settlement period is roughly the same time period as for the early Indus or Pre-Indus settlements of Mehrgarh, Amri and Dilji-Kot. These have been dated up to 9000 BC. Around 2500 BC, Mayas abandoned their nomadic way of life and began to cultivate maize. In the Pre- classic period, 1800-900 BC, they lived in village communities much like the Indians of the same period. During the Olmec period (1200-100 BC) the notable point is the celestial orientation of their ceremonial centres

(Ruddell Nancy, 1994, p.3). This is common to ancient cultures like Egypt and India (Kannan Dr.R., 2000, p.33). During the classical period of their culture (AD 250-400) they developed into highly structured kingdoms. The Southern lowlands of Yucatan became their sphere of activity. When the Southern states collapsed around AD 900, the centre of power moved to the northern Yucatan states. It is still a mystery why Mayas left their magnificent cities to ruin and returned to a simpler form of life as maize farmers (Ruddell Nancy, 1994, p.3). This also has a parallel in the collapse of the Indus cities and replacement by a simpler pastoral form of life, which is wrongly ascribed to the Aryan Invasion, though this theory has few takers now. A more plausible explanation appears to be global climactic changes viz. global warming or cooling.

Parallels in mythology

The *Popol Vuh*, the Maya sacred book got from a 16th century Manuscript throws light on the sacred and secular history of the *Quiche Maya* of Guatemala. *Popol Vuh* describes the accomplishment and beliefs of Mayas. One of the most important texts included in this is the creation story, which is the Kernel of Maya thought.

Creation Theory

“With the utterance of a word and the appearance of the thing embodied by the word creation began” (Ruddell Nancy, 1994, pp.11-13).

This should be compared with *Kalidasa's* (a famous Sanskrit poet) description of *Shiva* and *Parvati* (the Hindu God of Destruction and his Consort) as that of the word and its meaning. The same has been said by a 18th century Tamil mystic poet and great *Saakta* (Worshipper of Goddess *Parvati*) *Abirami Pattar* in his *Abirami Andathi* - a Tamil devotional poem (சொல்லும் பொருளும் என).

The Hindu concept that the world began with the word 'Om' is reflected in this concept.

Four Periods in Mayan Thought Corresponding to Four *Yugas* in Hindu Thought

The Mayans believe that the world was created four times. It was destroyed thrice before human beings were created. In the beginning there was only the sky lying directly on top of the calm primordial sea. The creator couple the embodiment of both male and female began by stretching a cord to create the Four Corners of Sky-earth.

In the second creation (read *Yuga* in Hindu thought) the creator couple planted their stones of heavenly hearth, raising the sky and emptied the water. At their command earth rose up. The mountains and forests appeared. All forms of life except the human beings were created. In the absence of human beings, the earth was not up to the expectation of the creator. So, he destroyed earth second time with a great flood. This flood concept has its equivalent of *Pralaya* in Hindu thought. This occurs at the end of each epoch or *Yuga*, as in Mayan mythology.

In the third creation (*Yuga*), the story of a pair of twin brothers who were great ball players is narrated. A curious young *Xibalba* girl had two twin sons called as *Hunahpu* and *Xbalanque*. They had an encounter with the Lord of death in which they killed the Lord of Death. The Hero Twins demonstrated their power by jumping into an oven of raging fire and then coming back to life five days later. Finally they tempted the Lords of Death in to allowing themselves to be sacrificed and when they were dead, the twins did not revive them. The episode of *Kaccha*, the son of a *Deva Brahaspati*, the teacher of the *Devas* (celestials) and *Devayani*, the daughter of

Sukracharya, a great sage, the teacher of the *Asuras* (demons) is closely reflected here. *Sukracharya* knew the *Mritasanjeevani Mantra*, a special chant for resuscitating a dead person. This was learnt by *Kaccha* by alluring *Devayani*. *Kaccha* tested the efficacy of his mantra by reviving his guru *Sukracharya*, but could not revive others. Another parallel is *Sita*, the chaste wife of Lord *Rama*, the epic hero and God and *Nandanar*, the *Saivaite* (worshipper of God *Shiva*) saint of *Tamilnadu*, who jumped into fires to prove their purity and returned unharmed.

In their next encounter with the celestial *Bird Seven Macaw*, who claimed himself as Sun God, though they were partially successful, they themselves were killed by the sons of *Seven Macaw*. The murdered boys rose and became stars. The Twin brothers became the Sun and the Moon (Ruddell Nancy, 1994, pp.11-13). The transformation of human beings into stars has a parallel in the story of the boy sage *Dhruva*, who meditated on Lord *Vishnu*, to escape the ill treatment of his stepmother. He became the pole star in the end according to the Hindu story. The *Seven Rishis* (great hermits and teachers with divine powers) became stars *Sapta Rishis* in the sky.

In the Fourth creation, the creator couple created human beings. From the cleft opening at the Sacred Split-Mountain, the First Mother made the first human beings from maize dough and water. She ground the corn nine times and it became human flesh; the grease from the water in which she washed her hand became human fat. These humans were perfect beings with divine vision capabilities, which has been blurred a little by the creator (Ruddell Nancy, 1994, pp11-13). *Brahma*, the Hindu God of Creation, is supposed to create people and living beings from dough. In Astrology, it is claimed that sage *Sukracharya* had divine vision through which he could see the past present and future. Through a curse, he could see only the past and

present and not the future. The future can be seen only by Brahma (The beginning *sloka* in *Sanskrit* (verse) in the Astrological Magazine). The vision was blunted a little to cover two time periods and not the third.

The Central Cooking fire with three stones” – symbolises an alter from which smoke rises carrying prayers and Messages to the Sky World (Ruddell Nancy, 1994, p.15). *Agni* (the God of Fire) considered the messenger of the Gods is supposed to carry the offerings poured in the sacrificial fire (*Havana kund*) to the Gods. This mode of worship is the same as the *Vedic* mode of worship. Such fire altars have now been identified in the Indus cities (National Museum, 2000) may be compared with Vedic “fire raising”.

“The earth is envisioned as a turtle floating on a vast sea” (Ruddell Nancy, 1994, p.16). The vast sea can be equated with the celestial ocean of milk of Hindu mythology (*Ksheera Sagar*). But it appears more appropriate in the human context to equate it with the oceans covering the landmass after each *Yuga* (the great flood – *Pralaya*). The Turtle is the first incarnation of God Vishnu, *Kurmavatara* (the Preserver in the Hindu Trinity of Creator (*Brahma*, the Preserver and Destroyer – God *Shiva*). The *Puranas* (the body of Hindu mythological description) state that the Turtle carries the weight of the world.

“In the beginning there was only the sky lying directly on top of primordial sea”

(Ruddell Nancy, 1994, p.12). This corresponds exactly to Hindu mythology when at the beginning of each *Yuga* there is supposed to be only ocean (Water) and sky, with Lord *Vishnu*, reclining on a *Peepal* (*Ficus Religiosa*) tree leaf in the middle of the ocean. Thereafter only Creation begins.

Religion was an important factor in Maya life. The chief deities were the rain gods called *Chacs*, the Sun and Moon and the Creator God. The rain gods called *chacs* are four in number. Each one of them is assigned a geographical direction and colour - the red *chac* in the East, the white *chac* in the North, the black *chac* in the west and the yellow *chac* in the south. The four *chacs* had evolved, according to Mayan belief, from snakes. Snake worship is very popular in India, where snakes are a fertility symbol. Assigning deities and colours to the directions is also common to Hindu mythology, where in addition to four cardinal directions, eight directions (*Ashta Dik*) and their guardian deities (*Ashta Dik Palakas*) are worshipped. The *chacs* store rain in great jars sprinkling it on earth when needed. By hurling stone axes to the earth they cause thunder and thunderbolt. The parallel in Hinduism is *Indra*, the chief of the *Devas*, who has as his weapon the thunderbolt (*Vajrayaudha*). He is also the God of Rain.

Hinduism describes exactly the same three worlds {*Devaloka* – the world of the *Devas* or demi-gods (immortal celestial beings or angels) which is above earth in space, *Bhuloka* or earth – the world of mortals, *Narakaloka* – hell or the world of fallen souls or devils).

Temples cum tombs

Burial in sarcophaguses is known to have been done by some ancient Hindus like the *Vratyas* (Parpola Asko, 1973, p.28 – 29). But considering them as temples is only in the case of saints, when a *Shivalinga* or idol of *Shiva* is placed above the burial place.

The Mayan kings were buried but also built temples in pyramidal form. The most famous is the one at Chichen Itza. This is more in tune with Egyptian practice. It appears that the Mayans considered their dead Kings as related to the Gods. To this extent, there is some relation with the Indian practice relating to dead Saints.

Parallels in Astronomy & Agriculture

Mayas prayed to their gods for success at all stages of their corn forming. Priests studied the passing seasons to determine favourable days for burning the fields and planting seeds. In doing so they observed the movements of the sun and moon. This practice has its echo in India, where festivals are held to coincide with the seasons. *Pongal*, the harvest festival of Tamilnadu, coincides with *Makara Sankarathi*, (Zodiacal sign Capricorn to Cancer) or the change in the apparent movement of the Sun from South to North. Prayers are made to the Sun God.

The very word Mayan appears to be derived from *Maya Asura* or demon *Maya*, who is considered as the supreme authority for the Zodiac of the 12 Rasis (Signs Aries to Pisces). He is considered as an author of the *Surya Siddhanta*, (the earliest Hindu treatise on Astronomy cum Astrology). This work predates 3102 BC, the commonly accepted year for the start of *Kaliyuga* (the current epoch) (Vijaya Muni O.B., 1998, p.1035). At the vernal and Autumnal Equinox, the sun illuminates the stairways of the temple to Feathered Serpent God. This creates an impression of the God descending to earth from the sacred mountain. The Mayas integrated astrology, astronomy and mythology (Ruddell Nancy, 1994, pp.31-32). This is also the case in Hinduism. The Feathered Serpent itself appears to be a combination of *Garuda*, the celestial bird and transport of God *Vishnu* and *Adishesha*, the thousand headed serpent on which he rests. The Sun temple at *Konarak*, Orissa also has a similar

phenomenon of the Sun lighting up the idol of the Sun at certain times of the day. The idol has been badly vandalised during the Muslim invasions of the 13th and 16th centuries. In *Kailasanatha* Temple, Taramaangalam near Salem in Tamilnadu, the light of the Sun falls on the *Shivalingam* (the idol in the form of a pillar) on certain days in the year. A similar phenomenon is noticed in *Suryanar* Temple dedicated to the Sun God on the idol of the Sun. Another parallel is the *Agnichayana* fire altars constructed in the form of a bird usually the eagle for Vedic sacrifices or *Yagnas*. The measurements and number of bricks represented astronomical phenomena. For instance usually, 360 stones were used to enclose the altar. They represented 360 days of the solar year. This corresponds to Mayan thought on the number of days in the year, as we shall see below. Time in motion is represented by the altar in the form of a bird. The head represents *vasanta*, the spring season and other parts the other seasons of the year (Kak Subash, 2000, p.11).

Their day of creation was reckoned as 13th August, 3114 BC. Though there are many years given for the start for *Kaliyuga*, the commonly accepted date is 17-18th February, 3102 BC. There are other years given. February, 3125 BC is another date (Raman B.V., 1981, p.4). Therefore, the difference of 12 years, when there is a theory that Christ was born on 5 AD, may be safely ignored. This shows that the astronomy and astrology of the Mayans and the ancient Indian Hindu civilisation were intimately connected. The *Satapata Brahmana* speaks of the emergence of *Asva*, *Rasabha*, *Aja* and *Kurma* (tortoise or turtle) before the earth emerged. These are identified with the Sun, Gemini, Capricorn and Cassiopeia (Kak Subash, 2000, p.13). The turtle connection is common with Hinduism as stated above. This also shows the weaving of astronomical phenomena

as mythological lore, a practice common to both Mayans and ancient Indians.

The Mayans developed a Long Count calendar. It had a 360 day period called *tun* (Ruddell Nancy, 1994, p.33), which corresponds to the Hindu solar year. Cosmic phenomena is considered part of religion. They are narrated as mythological stories like *Rahu* and *Ketu* (the celestial snake) swallowing the Sun and Moon during eclipses in Hindu belief. But like the ancient Hindus, they were accurate astronomers and could calculate the calendar and heavenly movements so precisely that with all the scientific instruments at our disposal, we can only marvel at them. The alignment of idols of Gods in such a precise way with the movement of the Sun and Moon so that the rays fall on them on certain days of the year is a remarkable similarity in both cultures.

Parallels in Archaeology

The Mayan cities were chiefly ceremonial and governmental centres. The main structure was usually a temple on top of a pyramid. The Mayans constructed these pyramids by building walls of rubble and mortar, faced them with stone and covered them with lime plaster. They used false arch, built by placing stones horizontally, staircase fashion, on the two sides of an opening so that they met at the top. Supporting walls had to be thick. It is to be remembered that this method has been adopted in the construction of the Thanjavur Big Temple. The sanctum sanctorum of the Thanjavur temple has two walls the inner and outer walls and on the top of their meeting spot the Vimana rests.

Decoration of the Maya temples consisted of models, stucco, sculptured reliefs, wall paintings, geometric designs, masks, figures of gods and formalised representation of



(*Rudra Siva*, 16th Century AD,
Courtesy Bhopal State Museum)

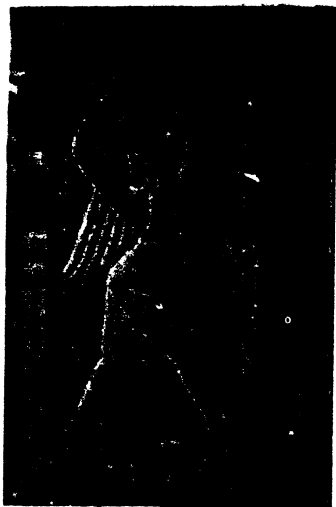


A Were-Jaguar God mask (From
Ruddell, Nancy (1995, p.4)

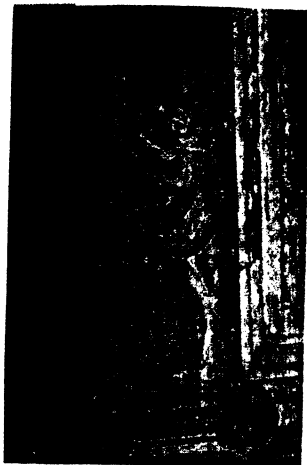
Amaravathi
Railing,
Government
Museum, Chennai
showing men
reclining on lotus
stems



Amaravathi Railing of
the British Museum,
stout figures, *ganas*
holding up a lotus stem
(Knox Robert, 1992,



Winged Gods or *Rishis* - Suchindram
Temple, Kanyakumari District



A lady with Mayan style hair-
do, Suchindram Temple,
Kanyakumari District



Olmec face (From
Museo Carlos Pellicer,
Tabasco, Mexico
Website)



Jaguar, God of the Underworld
(From Museo Carlos Pellicer,
Tabasco, Mexico Website)

men and animals. These art works present a striking resemblance between Meso American and Indian art styles. Lion Headed thrones are shown in India as representation of exalted personalities like the Buddha was represented in Hinayana Buddhism, in which by convention the Buddha was physically not shown. The Mayas also used Lion-headed thrones to represent dignitaries. They share other ritual expression with Indian Art and culture including stepped temple pyramids, door ways with serpent columns and balustrades. Considering tree foliage as sacred and a symbol of fertility (*Shalabanjika* - ladies under foliage of the trees) forms another common subject between Mayan and Indian civilisations. Lotus friezes found both in Maya and Indian works exhibit remarkable similarity in portraying men reclining between winding lotus stems which they grasp in both hands (Refer picture of the famous Amaravathi sculpture shown below). Water monsters and fish often occur in the same sculpture compositions. The five centuries of the classic period were a time of great cultural achievement by the Maya, especially in the high arts.

The heartland of classic Maya civilisation is in the Guatemala lowlands (Peten) where numerous classic centres can be found. These sites are dominated by core zones that typically feature temples situated on large pyramidal bases, multi- roomed palaces, carved monuments (or stelae), huge open plazas, ceremonial ball courts (where ritually significant games were played using hard rubber balls), raised causeways and houses of varying sizes. Excavations at sites such as *Palenque* and *Tikal* have revealed elaborate tombs inside some of the pyramids and beneath certain palaces.

Indian sculptures of all periods fall into two different categories regarding treatment of figures. In one type, the figures are carved, solid and stout. They have a stiff

countenance with heavy limbs and thick ornaments. The figures of the other type are supple and charming with artistically formed limbs. The Mayan sculptures exhibit a closer affinity with the Indian sculptures of the first type (Amaravathi Railing figures of the British Museum). Thus we see a striking resemblance with the Indian sculptures such as the 6th century AD, *Rudra Siva* sculpture in the Bhopal State Museum with the *Were-Jaguar* and *Olmec* face (see pictures below), and the 16th–17th century AD figures carved on pillars depicted as the Winged Gods or *Rishis*, a lady with a Mayan style hair-do depicted Circa 16th -17th Century AD in bas-relief in Suchindram (see picture below), a temple at the tip of the Indian Sub-Continent near Kanyakumari with Mayan sculptures. The winged Garuda figure in dancing pose in the Kanyakumari temple forms a parallel to the winged Mayan figures. A standing lady figure with Roman helmet like hair-do, is another pillar sculpture from Kanyakumari region to be compared with Mayan figures. The Jaguar figure resembles God Shiva with his third eye and snake ornamentation.

ART

The art of Mayas has a great complexity of motifs and iconography and uses a wide variety of media for its expression. Maya buildings were painted and adorned with features such as carved friezes, facades and roofcombs in stone or stucco. The interior walls of certain structures were painted with colourful murals. Carvings were excavated in low relief on a single flat face or on both sides of a flat slab, while at the sites of *Copen Quirigna* the carving was done in the round. Most often, one or more human figures appear on the steatite in full ceremonial regalia, including headdresses, earplugs, necklaces, bracelets and other accoutrements. These figures, often important male or female members of the elite ruling families, have accompanying hieroglyphic texts. There are similar bas-relief carvings in

India, the most famous being *Mahabalipuram* near Chennai and many similar caves and rock faces.

Conclusion

It can be easily seen by comparing through archaeology the Mayan achievements in Architecture, Art and Astronomy that there has been a remarkable resemblance to Indian especially Hindu and Buddhist Architecture, Art and Astronomy. The mythology also bears close resemblance and in some cases totally tallies with Indian Hindu mythology. The resemblances are so close and so many that it is difficult to dismiss them as mere coincidence. The grouping of Gods on the basis of their abode such as celestial Gods, terrestrial Gods and underworld Gods, Gods of Directions, and their functional names such as Rain God and even their weapons are similar and sometimes exactly same as their equivalents in the Hindu religion.

It was claimed by V.G.Ramachandran long ago for the Incas of Peru were related to ancient Hindus or taught by Indian *Rishis* based on their Sun worship. He did not analyse other aspects. Now after analysing several aspects like mythology, sculpture, art etc we can safely conclude that there appears to have been contact or transfer of ideas in ancient days between India through its *Rishis* (Seers) who taught many great truths to this world and the Mayans.

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maravathi sculpture of the British Museum showing a stout figure, *gana* in Indian mythology (Knox Robert, 1992, p.1A07)

DRAVIDIAN ARCHITECTURAL ELEMENT IN THE INDUS VALLEY CIVILIZATION

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Indus Valley Civilization flourished in the northwestern part of India about five thousand years ago. Researches are being continued on various aspects of this civilization. One of the important question among these scholars is about the authorship of this civilization.

Many scholars have worked on the Indus seals and have expressed divergent views. Some scholars presume that the language used in these writings is Sanskrit and the other think that it could be Proto-Dravidian language. None of the these views is proved beyond controversies.

Apart from the writings of seals other findings like linga, yoni stones, and pasupati depiction in the seals are said to be the characters of Proto-Dravidian culture. Likewise some excavators feel that there were fire altars in the cities and say that this, aspect is of Arayans .

Recently a large city of Indus culture, Dholavira was found in the Kutch District of Gujarat . The site was excavated by R.S.Bisht. The city has three parts and they have been named Acropolis, Middle town and Lower town by the excavator.

The impressive Acropolis has two sub divisions, namely Castle and Beiley. Castle is believed to be the residence

of the king. It has a rampart with a width of 18ft at the bottom and 11ft at the top on its four sides. The rampart has been veneered at the outside with chiseled granite blocks and the inside built with mud bricks. The absence of burnt brick in the entire city is a unique feature of this site. The southern arm of this rampart has witnessed a severe collapse perhaps due to an earthquake doubled with heavy rain. And this damage was immediately rectified.

The rampart has two gateways one at the middle of eastern arm and the other at the middle of northern arm. The northern gate is much imposing. A largest size of writing ever found with nine letters each measuring about 15 inches is found in this gate. The excavator opines that it is the name board of the king. These letters are made of conch pieces embedded in a wooden plaque while the wood perished into dust the conch pieces are found intact.

The more astonishing feature of this northern gate is its shape. It is with the shape of large rectangular block pierced by a thoroughfare at the center, and this shape recalls the ground plan of our Gopurams. While entering into the Gopuram one can see two elevated rooms on either sides meant to place the musical instruments like drums of the temple. In cases these rooms are made with two tiers with the help of columns the same arrangement is found in the northern gate of Dholavira. R.S.Bisht has also conjectured from the ruins that the gatehouse is with two storeys. Though it was not like our present day skyscraper Gopurams it is sufficient for us that it was a storied gateway built in the centre of a rampart.

Though the incipient shape of Gopurams appear for the first time in the temples of Pallavas, the panel depictions in the Thoranas of Sanchi and Barhut Stupas, literatures like

Arthasasthra reveal the existence of tall Gopurams built at the centres of ramparts of towns and palaces. The descriptions of gateways tall enough to enter an elephant with flagstaff are found in the sangam literatures. More evidences for the continuations of such gateways through protohistoric and early historic times are coming up from some of the recently excavated sites in North India.

Being Gopuram is an important feature of Dravidian temple Architecture, it is very rare in the North Indian Temples. The theory of Dravidians once found spread throughout India could be recalled to explain the occurrences of early evidence of gateways in North India. Later when they settled down in the south they continued their traditional architectural features.

So, the northern gateway of Dholavira and the South Indian Gopuram are of same plan, and the latter is the characteristic feature of Dravidian temple Architecture. This Dravidian Architectural element found in the Indus City, Dholavira, could support the theory of Dravidian authorship of Indus Valley Civilization.

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COPPER ANTENNAE SWORDS OF APPUKKAL

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In the month of May 2000 granite quarry workers had discovered a hoard of eight copper antennae swords while they were blasting rocks in the hillock of Appukkal village in Vellore Taluk and same district. The then District collector had handed over them to the District Government Museum, Vellore. On South West of foothill of the above-mentioned hillock, the Department of the Archaeology, University of Madras, had already excavated the site on two seasons¹. After getting of artifacts from this site, Archaeologists ascribed Appukkal to megalithic period².

The Chennai Government Museum had first received four copper antennae swords from Shavinipatti, Ramanathapuram district of Tamilnadu. It was the first occurrence of such treasure trove and dated back to 4000 years³.

Appukkal findings of double antennae swords are similar to Shavinipatti swords in appearance. Appukkal swords are second findings in State of Tamilnadu. When examined Appukkal swords revealed antiqued look and green patina on the surface. After cleaning in fresh water they look brown color. Each sword has its own length and breadth. Small sword's length is 24". The longest sword's length is 33". On structural features one can come to the decision that these eight swords were not prepared at a time. Moreover they had been moulded in different times by the same technique. They are double-edged swords

with strong mid rib. Bottom of the handle was split into two and turns outwards as insect's antennae. Therefore this type of swords is called double antennae swords. Lower ends of blade of the sword are not round but ends in acute angle. A sword displayed in Indian Institute of Research in Numismatic studies at Anjaneri, Deccan swords⁴ and Fategarh swords⁵ has round shape at the bottom of blades (figures). The antennae of the hilt of Appukkal swords are thick and not tapering but bluntly end. Fategarh copper hoards and other North Indian findings have other associated antiquities. But Appukkal swords had been discovered in the middle of a hillock, however excavations were carried out at the foothill of the above hillock. Except one, seven were eroded due to climatic conditions. But the hilt and antennae portions are in good condition.

Bronze antennae sword belonging to the Koban Culture of North Caucasia is different from Appukkal hoard because hilt of sword of Koban Culture is detachable from blade. B.B.Lal and Vincent A. Smith had opinion of copper age in India before 1000 B.C.⁶.

G.Kuppuram says there were copper mines in Kallakuruchi taluk of Tamilnadu during Harappan age⁷. Adichchanallur had rich collection of copper utensils⁸. On these accounts copper swords of Appukkal type might have been moulded in ancient Tamilnadu itself. N.Devasahayam ascribed Shavinipatti swords to 4000 years old. Accordingly Appukkal copper antennae swords can be undoubtedly fixed to 4000 years back from now.

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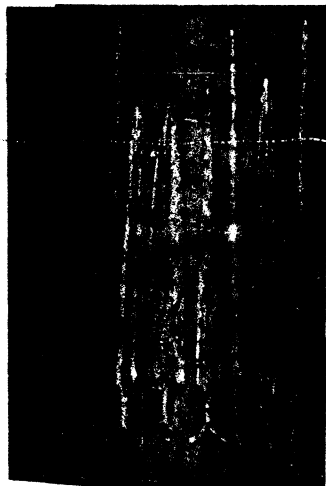
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Copper Antennae Swords of
Appukkal



WELLINGTON MILITARY CANTONMENT

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Wellington on being a cantonment is very popular in the Nilagiri District. It is two and half a kilometer away from Coonoor on the Mettupalayam-Udhagamandalam Ghat road. Wellington consist of Madras Regiment Centre and the Defence Service College. The cantonment is at an elevation of 6100 above MSL.

It was Captain J. Ouchter Lonely who was responsible for detailed geographical survey of the Nilgiris who suggested in 1847 present dayenvirous of Wellington cantonment as a suitable site for housing the British troops. Plans were taken over from the Badaga village Jagadala. Plans were taken in 1857.

The place continued to be called Barracks until, later it was named Wellington in honour of Iron Duke who took interest in the establishment of the station and sanatorium. The name of the Duke was Sir. Charles Trevely an Governor of Madras.

The name Wellington was actually suggested in 1852 (the year of death of Duke) by Sir Richard Armstrong the then Governor in Chief but was vetoted by Sir Henry Pettier the then Governor who though that name would unintelligible to the natives.

Until before Independence 31 units / battalions of British troops had been garrisoned in Wellington. Indian troops of Madras

regiment came to be quartered in Wellington on from February 1947. To follow suit was high prestigious inter service advanced training institution called Defence Staff College. A brigadier is presently commanding the Madras Regimental Centre and the Staff College is under the direction of Lt. General.

The cadet college was functioning from 1914 to 1918 the German prisoners of war were brought here during 1915-1916 the British Army educated corps from 1923 to 1926 The Madras Regimental center was the first Indian Regimental occupy the Barracks in 1947 and the staff college was established in 1947.

The Centre of the cantonment can be said to be circle, which is the junction of the roads from Udhagamandalam, Coonoor and Kotagiri. To the east of circle where these road is meet is the Defence Service Staff College the only of its kind in the country. Trainee officers of the three wings viz. the army, the navy and the air force are imparted training in various disciplines before they get back to their original units. The college is equipped with a well-stocked library.

The Wellington Gymkhana club, which is one of the oldest institutions, established in 1872 is just below the Staff College. The surroundings are extremely exquisite and picturesque adjoining club building is the golf course.

The club is considered to be one of the best in the country providing recreation like Tennis, Golf, Billiards, Table Tennis, Squash etc. in front of the club, there are a few well appointed rooms for members who want to stay for few days. Most of the members of the club are officers of the Defence Force. Admission of civilian members is strictly regulated.

The Administration of cantonment run by a board, which maintains electricity, water supply, drainage, markets, schools etc. situated within the limits of cantonment. Wellington is served by post and telegraph office and police station. A Vinayagar temple and mosque are there in the Wellington Bazaar area.

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BIRDS MIGRATION

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Introduction

In Latin, *migrare* means to travel. The periodic travelling of birds from one place to another and back is called bird's migration. Migrations are in two ways, namely, emigration and immigration. Emigration is the onward journey from the feeding place to the breeding place whereas immigration is the return journey from breeding place to feeding place.

Objectives of Birds Migration

Birds migrate from one place to another for breeding, feeding and getting suitable climatic conditions.

Causes of Migration

The ripening of gonads, scarcity of food, shortening of daylight and fall in temperature, causes the migration.

1. Ripening of Gonads

Increased sex hormones result increased development of gonads and increase in the internal pressure. It was experimentally proved that the birds with undeveloped or defective reproductive organs or gonads lack the instinct of migration.

2. Scarcity of food

Birds migrate from north to south during winter in search of food, which is abundantly available in southern

regions. After the winter is over, they migrate back to the western regions for breeding.

3. Shortening of day light

During winter the northern regions of the earth have shorter daytime, which is unfavourable to the birds to search for their food, so they migrate to the southern parts where the daytime is more.

4. Fall in temperature

Birds migrate from extremely colder region to warmer region during winter season.

5. Thyroid hypothesis

According to this hypothesis, certain thyroid hormones cause migration by inducing changes in the metabolism of migratory birds.

6. Antipituitary hormones

The antipituitary hormones regulate the migration and instinct to migration.

7. Metabolic hypothesis

Prior to migration the fat is deposited due to changing metabolic activities provoking migration.

Types of Migration

1. Altitudinal migration

The migration of birds from mountaintops to valleys is called altitudinal migration. Birds dwelling on mountains perform this. eg. Common wood-cock.

2..Latitudinal migration

The migration of birds from north to south and vice versa is called latitudinal migration. eg. American Golden plover (*Pluvialis dominica*).

3.Longitudinal migration

The migration of birds in the east - west directions and vice versa is called longitudinal migration. eg. Patagonian plover.

5. Total migration

When all the members of a species living in a particular area proceed migration, it is called total migration.

6.Partial migration

When only a few members of a species take part in migration, it is called partial migration.

7.Diurnal migration

The migration of birds which occurs in daytime is called diurnal migration. eg. Hawks, Cranes, Pelican, Ducks, Swan.

8.Nocturnal migration

Certain bird's undergo migration during night and it is called nocturnal migration. eg. Owl.

9.Daily migration

Certain birds fly away from their nests in the early morning and return to the same nests in the evening and it is called daily migration.

e.g., Crows, Gulls

10.Seasonal migration

Certain birds migrate at definite season every year and is called seasonal migration.

e.g : 1 Swift, Swallow, Nightingale, Cuckoo.

The birds while migrate from south to north during summer are called as summer visitors.

e.g : 2. Field fare, Snow bunting and Red wing birds.

The birds that migrate from north to south during winter are called as winter visitors.

Ranges of migration

The bird arctic tern, *Sterna macrura*, covers longest distance during its migration, about 17000 kms. Barn swallow travels about 14000 kms.

Altitude of migration

Some birds fly closure to the earth. Some birds fly at an altitude of 3000 ft.

Speed of migration

The average speed during migration is 50-80 km/hr. Some birds like swift, capable of flying 300 km/hr.

Regularity of birds

Birds maintain regularity, punctuality and accuracy during migration. The arrival of certain birds can be predicted with 100% accuracy.

eg. Purple martin bird.

Another astonishing feature of bird's migration is that the birds select the same locality every year. Certain birds return from south to Europe during winter year after year. They visit the same village and also the same tree for building nests. eg. Swallows.

Birds navigation

The birds migrate through well-established routes every year. They follow the same routes and reach the same destination. This is the greatest mystery, how do these birds find their way?

1. Land mark

Order of migration

During migration, the birds follow a definite order and this order is strictly followed by all. Due to the maturity of gonads, the adults migrate first and the young ones follow them. During return flight, the young birds migrate first and follow the same route when the adult birds follow the young birds. When the adult males lead the migration, the adult females follow next and in the end the weak and wounded birds.

Energy for migration

During migration, the migration birds have to travel for several hundreds of kilometers without food. To overcome this condition, the birds are capable of storing fats as adipose tissues, which supply more energy than glycogen.

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THE COPPER ANTENNAE SWORDS UNEARTHED AT COMBATORE DISTRICT OF TAMILNADU

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I. Introduction :

A museum acquires its exhibits through various means of acquisition, viz. 'field exploration', 'treasure-trove', 'confiscation', 'gifting', 'exchange', 'purchase', 'loaning'. The Indian Treasure Trove Act is one of the constant sources of acquisition of exhibits to Government State Museum, Chennai and its various District Museums - as the Commissioner of Museums is the only Treasure Trove officer of the State.

In this paper, the author tries to present a detailed account on the hoard of copper antennae swords unearthed recently at Coimbatore District of Tamilnadu.

II. Copper Antennae Swords - A Brief Introduction :

The Chalcolithic (<Chalcos 'copper'; lithic of 'stone') period - as its name denotes - is that period wherein both copper and stone implements were in vogue among the protohistoric people of India. And consequently, for the first time in the history of mankind a hoard of copper implements were attested in this chalolithic culture, apart from ribbon - flake stone implements. Of the copper hoard implements of this protohistoric period, the copper antennae swords (as their name implies) are construed as a unique kind of artefacts, as their hilts bifurcate like antennae of an insect (in contradistinction to single, straight hilt of ordinary swords). Such unique copper

antennae swords became obsolete after the onset of iron swords in the megalithic period.

Outside India, occurrence of copper antennae swords were recorded from Koban region of Upper Iran. And it is reported that these antennae swords are comparable to Indian types; but, their hilt and handle portions are appended later as separate pieces; further, it is reported, the blades of these swords had plain cross section with a hole.

III. Copper Antennae Swords Unearthed so far in India :

A hoard of copper antennae swords (8 in Nos.) were first reported in Indian subcontinent from Gangetic basin. B.B.Lal (as quoted in N.Devasahayam, 1980-81: 128) predicted the possible southward extensions of the copper hoard culture from the Gangentic basin across the Vindhya and Kalmur ranges. Later, a set of copper antennae swords were recorded in Andhra Pradesh. And still later, in 1982 a hoard of copper antennae swords were first attested in Tamilnadu as accidental finds from Shavinipatti village by the local workers while laying a road towards Minnalkudi village in Thirupathur Taluk of Ramanathapuram District. A couple of years ago, the Curator of Government Museum, Vellore has reportedly acquired a hoard of similar copper antennae swords (8 in Nos.) from Appukkal cave nearby Vellore. And quite recently (i.e. on 21/07/2001), a hoard of copper antennae swords (numbering 10) were acquired as treasure trove finds from Kuppuchipudur village from a stone quarry quite nearby Perumalswamykaradu in Anaimalai region at Pollachi Taluk of Combatore District, Tamilnadu.

IV. Copper Antennae Swords Unearthed at Coimbatore District of Tamilnadu :

Local villagers in and around Pollachi misconstrued these chalcolithic copper hoard of antennae swords as that of Thippu Sultan period, as this site was associated with Tippu Sultan in the local oral narratives.

Summing up the similarities and other notable features of the copper antennae swords found at Coimbatore District of Tamilnadu-

- The antennae portion of the hilt of these swords is not tapering at the distal end;
- The blade of these swords is not so tapering at the distal end;
- Some of the Coimbatore antennae swords are unique in shape with a remarkable constriction at the body either in the centre or in the penultimate distal end; and
- Yet, a few of the Coimbatore antennae swords are found to exhibit a prominent mid rib.

V. Conclusion :

As proposed by B.B.Lal (op.cit.) the presence of copper antennae swords could be attributed to the possible southward extensions of the copper hoard culture from the Gangetic basin.

N.Devasahayam (1980-81: 128) earlier conjectured that there may be ample possibilities of this type of culture of antennae swords of the copper hoard, having penetrated into the neighbouring districts (of Tamilnadu) such as Ramanathapuram, Thirunelveli etc. of Tamilnadu from Andhra Pradesh, in early times. And in this juncture, it could be conjectured further that Coimbatore District also falls in this line, providing yet another

missing link in mapping the possible route of copper antennae swords in Southern India.

In such a way, this hoard of copper antennae swords unearthed from Coimbatore District is conceived as a breakthrough find by the experts in the field. And consequently, these copper antennae swords from Coimbatore District could help us in the reconstruction of the history of Kongu region, in particular and protohistory of South India, in general.

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Colophon :

The author of this paper would like to record his deep sense of gratitude to **Dr.R.Kannan, I.A.S.,** Commissioner of Museums, Chennai who remains as the constant source of encouragement to all his academic and research endeavours.

ROCK PAINTINGS IN TAMIL NADU AND THE SUGGESTED CONSERVATION MEASURES

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Introduction:

The forested hills with their rich flora and fauna were excellent attractions for the prehistoric men. The hollowed escarpments of sandstone, quartzite and lateritic hills and also very large boulders were the most favourite living abodes for the Stone Age man since his appearance in this sub-continent, India. The remnants of prehistoric men are the form of occupational evidences in the form of stone tools, food remains, burials of the dead and art expressions in lines, washes and engravings. The paintings, engravings and bruising on the walls and the ceilings of the caves and rock-shelters of Europe started coming to light only in the first decade of 19th century. It was however, only in 1880 that the Spanish archaeologist, Marcelino Don de Sautuola first proclaimed the existence of Paleolithic paintings in the Altamira Caves. Many more cave art were exposed throughout the globe. India too had exposed many rock art sites throughout the sub-continent. In Tamil Nadu, the Western and Indian pre-historians had discovered and reported many sites. Recent discoveries have brought to light many rock art sites in good and damaged conditions. The rock art, its techniques, status and the suggested conservation measures to preserve the rock art are detailed in this paper.

Rock Art:

Rock art or cave art is the primitive art executed by the prehistoric man on the walls, ceilings and floors of his dwellings in the early past. They are in the form of engravings (petroglyphs) or pictorial representations (petrographs). These reveal the vital aspects of the life of the hunter artists. The glimpses of life and culture projected through these paintings are ever inspiring. They are found in the form of line drawings, filling of the inner portions with colours or designs. They are both static and dynamic in action. Some of the paintings are called x-ray paintings as they reveal the internal structure of the figures. Various human activities found in these paintings are hunting, dancing and fighting. The subject matters are animals, human beings, decorations and symbols.

The principal types of rock shelter locations are:

1. Cliffs - cliffs are formed by folding and faulting
2. Gorges - Gorges are formed by flowing water and
3. Boulders - Boulders are formed by the erosion of the upper layers of the rock at the top of the hills.

Rock Art in Indian Context:

The art of rock painting dates back to the Mesolithic period (10000-3000 BC) and it is very late compared to the rock art identified/reported elsewhere. India is considered to be one of the richest centres of rock art in the world. India has over 1500 sites with nearly 2500 painted rock shelters located in different parts of India. The first discovery of rock art in India by John Cockburn and Archibald Carlyle goes back to 1887 AD. When compared to the rock art in Italy, France, Africa, Spain, Tanzania, Rhodesia, Australia, Siberia etc. India is rich in natural, cultural, artistic and archaeological treasures. The rock art of India has posed complicated problems of preservation. In order to elucidate the causes of deterioration of this rock art, the

techniques and materials used have been studied by carrying out a detailed examination of several typical sites and intensive laboratory investigations of representative samples of rocks and pigments. Rock paintings are found on quartzite, sandstone and granite, but not on limestone, shale and slate. The paintings provide a visual expression of the artistic impulses of the primitive folks and illustrate different aspects of their way of life.

Rock Art in the Context of Tamil Nadu:

Tamil Nadu has over 500 sites of rock art. Many new sites have been discovered by scholars in various places in The Nilgiris, Vellore, Villupuram, Madurai, Coimbatore, Dharmapuri, Tirunelveli districts in Tamil Nadu. Vellore is famous for its prehistoric leanings and a good number of sites have been discovered right from 1863 onwards through the efforts of H. J. Lefanu, Robert Bruce Foote, H. R. P. Carter, W. R. Robinson etc., and of which the rare palaeoliths collected by H. J. Lefanu, and now in the reserve collection of the Government Museum, Chennai are worth mentioning. Both unpolished and polished stone tools have been collected from other places like Arkonam, Wallajahpet, Gundalathur (Jawadhi), Mangalam (Yelagiri) etc. Microlithic tools have been discovered at Sholinghur, Arcot etc. Prehistoric man as a wanderer started cultivating and constructed permanent houses such as caves, shelters etc. for his stay. He drew many signs on the shelters where he stayed. Dr. R. Poundurai has studied this art and compiled the rock art sites found in Tamil Nadu. Dr. R. Madhivanan of the Etymological Dictionary Project of the Government of Tamil Nadu has studied the rock art in many places in Tamil Nadu and brought out many articles on the rock art in Tamil Nadu. Gudiyatam R. Sundaram has extensively toured different parts of Gudiyatam taluk in Vellore district and reported 28-rock art sites in the district. Petroglyph is found in

Perumukkal of Villupuram district. In Alambadi caves, x-ray paintings of the human anatomy are depicted. Mr. G. Krishnamurti discovered the rock art at Alambadi and Mr. P. L. Samy, an Indian Administrative Service officer exposed it to the world through his publication. In Setthavarai of Villupuram district, deer, buffaloes, tiger, pig, fish etc. are depicted. Men are depicted firing meat keeping it in a stick. In Keelvalai red ochre drawings depict human beings on the back of the horses and boats. In Mallappadi we find the animal motif in the caves. In Guidyatam taluk of the Vellore district the rock art mainly consist of picture scripts in the caves. In Chandrapuram and Chenrayanpalli of Vellore district also we find human beings with animals. In the Ezhuthupparai near Vellarikombai of the Coonoor hills red and white ochre drawings are seen.

The Rock Art Committee chaired by Dr. R. Kannan, I.A.S., Commissioner of Museums, comprising experts from Government Museum, Chennai, Government College of Arts and Crafts, Chennai and Prof. R. Madhivanan of the Etymological Dictionary Project, Government of Tamil Nadu took an expedition to study the rock art in Tamil Nadu on 30th July from Chennai by a separate vehicle in order to make the expedition easy. A Video Unit and Photography Unit accompanied the Committee. Rock art sites at *Perumukkal*, *Keelvalai*, *Alambadi* etc., in Viluppuram District; rock art at *Kudumianmalai*, *Thirugokarnam* etc. in Pudukkottai district; rock art at *Vellerikombe* and *Iduhatti* at Coonoor hills; rock art at *Senrayanpalli*, *Chandrapuram* in Vellore district and rock art and wall paintings at *Thirumalai* in Thiruvannamalai district were studied and documented. The survey was completed on 4th August 2001. The Committee reached Chennai on 5th August 2001. This was a preliminary work undertaken study to document the rock art in Tamil Nadu.

Techniques:

The rock paintings are generally found in the form of drawings in yellow, white, red or black. No other colours have been used. They are described as pictographs or petrographs as against petroglyphs, which are engravings. They are normally painted on vertical or near vertical rock faces or on the undersurface of projecting or over hanging rocks. Rock art are located in those regions of the Indian sub-continent which abound in sandstone, quartzite and granite. Rock paintings on limestone have not come to the notice. The painting technique is often the wet colour technique. The colours used for rock drawings were white with yellow, hematite red in various tones or black. The paintings do not have any base other than the rock. In fact, no attempt was made to dress the rock, which was neither plastered nor primed before painting. The pigments have gone straight on the rock surface. Even though the above said techniques of the rock art are studied by many rock art scientists elsewhere in India the rock art in Tamil Nadu resembles them in technique. The study is under progress.

Pigments:

The painting technique is mostly wet colour method and the colours used for rock drawings were white with yellow and blue tints and haematite red in various tones. The paintings do not have any base other than the rock. Apart from charcoal, only naturally occurring earths pigments-red and yellow ochres and white clay has been used in painting these petrographs. The earth colours were available in the vicinity of rock shelters as residual products of weathering of the rock. Red was the naturally occurring hematite or red ochre that was used for the red pigment. Similarly, lime and gypsum have not been found in the white pigment, which has invariably turned out to be white clay (B. B. Lal, 1976). The compounds found in the pigments have been reported as follows:

White	: Kaolin or limestone
Black	: Magnesium oxide or charcoal
Deep purple	: Magnesium oxide
Green	: Copper compounds
Red	: Oxides of iron like hematite
Yellow	: Oxides of iron like hematite
Orange	: Oxides of iron like hematite
Brown	: Oxides of iron like hematite

The white colour found in the paintings of Vellarikombe and Chenrayanpalli are kaolin and the red colour is containing iron conforming to hematite. Further study is in this line in the Chemical Conservation and Research Laboratory of the Government Museum, Chennai.

Medium:

In some cases, the pigments have permeated deep into the fabric of the rock indicating their use in a fine liquid form. The preparation of the pigments in a fine liquid form must have entailed the laborious process of pulverisation of the lumps of naturally occurring pigments and levigation of the powder in water for preparation of a fine aqueous suspension. Due to the long period of the painting's survival it can be presumed that water was the medium used for the pigments and it is probable that the slow action of water on the siliceous rock resulted in the formation of colloidal silica and the latter produced an imperceptible layer on the pigments, thereby fixing them firmly to the rock, and rendering them immune to the solvent action of water (B. B. Lal, 1976). The rock art in Tamil Nadu is similar to the other sites in India. But the study is under progress on the samples collected from Vellarikombe and Chenrayanpalli.

Status of Rock Art:

Because of geographical location and easy accessibility, quite a large number of rock art sites in India are under constant danger of being wiped out for ever, due to increasing human activities and changing environmental conditions. At such sites one could see people attempting to scribble something over the rock surface and thereby defacing the rock art. Generally speaking, many rock paintings have faded as a result of impairment of the pigments due to prolonged exposure to sun, wind and rain. The rock surface of these paintings is a medium to coarse-grained ferruginous sandstone. The rock surface has undergone much erosion. It has spalled and flaked away from over large areas. As a result of extensive weathering due to physical and chemical forces many rock shelters have fallen down. At many sites the painted surface shows extensive stains caused by the deposition of clay and siliceous material held in the water flowing over the rock shelter. Patination of the rock surface is also observed at many sites. Many a painted surface is seen overgrown with mildew and algae (K. S. Rana, 1996). The destruction and disintegration which the paintings have suffered are at least partly attributable to the unscrupulous activity of vandals who have in some cases defaced and damaged these artistic works of great archaeological significance.

Damages:

Because of geographical location and easy accessibility, quite a large number of rock art sites in India are under constant danger of being wiped out for ever, due to increasing human activity and changing environmental conditions. At such sites one may see people attempting to scratch or scribble over the rock surface and thereby defacing the rock art. The most important causes of deterioration, which have been determined by the study of the three elements of the paintings i.e., carrier, pigments and the binding media are the following:

1. Weathering of rocks resulting in splitting, flaking or spalling.
2. Formation of salt on the painted surfaces.
3. Due to the seepage of water formation of microbiological growth and thereby the damage.
4. Formation of mud-nests and thereby the degradation.
5. Erosion by flowing of water and sand blasting by winds.
6. Fading of pigments due to isolation and loss of colours due to leaching by rainwater.
7. Accretion of dust, dirt, cobwebs and soot.

Suggested Conservation Measures:

Even though the conservation treatment of rock art varies from place to place depending upon the condition of the art, in general the following steps may be taken to preserve rock art for posterity:

1. General cleaning and removal of dust and dirt.
2. Removal of microbial growths.
3. Consolidation and application of surface coating.

Whenever any conservation work is to be under taken it is advisable to document the paintings properly. Photography of different types, videography, line drawing etc., may be done to document the rock art. Cleaning may be done with solvents such as toluene, methanol, acetone, ethoxy ethanol, diethyl ether, ethyl methyl ketone, petroleum spirit, ethylene glycol etc. The sooty accretions may be eliminated by using triethanolamine-ethyl alcohol mixture in the ratio 1:20. Microbiological growth such as algae, lichen etc., may be eliminated by using aqueous or alcoholic ammonia. If there are any stains, they may be removed with the help of hydrogen peroxide. The weakened painting may be consolidated with the help of 5% solution of poly vinyl acetate in acetone or toluene.

Dating of Rock Art Paintings:

Even though we have thousands of rock art sites in India and over 500 rock art sites in Tamil Nadu, the dates of these rock arts are not absolute. Mostly they have been dated by their styles, which is known as stylistic dating. There are various methods of dating of the rock art paintings are available. They are,

1. Micro-erosion dating
2. Traditional lichenometry
3. Removal of mineral accretions over and testing them by luminescence or radiometric dating methods.
4. Removal of paints residues for radiocarbon analysis.
5. Accelerator Mass Spectrometer is use in Australia and it is planned to be used in India too.

What ever may be the method followed, the sampling is done by destructive means. If the rock art is sampled by destructive means once, it is a loss forever in the rock art. There fore methods, which will find the date non-destructively, should be found out by the rock art scientists.

Conclusion:

The rock art sites in Tamil Nadu is encouraging and they need to be preserved. Even though the Archaeological Survey of India and the State Department of Archaeology are protecting the sites in Tamil Nadu, the sites have been damaged and they need to be preserved for posterity. With the idea of preserving the rock art the sites have been documented videographically and photographed. The Government of Tamil Nadu has sanctioned a project of establishing a Rock Art Gallery in the Government Museum, Chennai in 2001-2002. After the Rock Art Gallery is established, this will be the first of its kind in India.

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ADDENDA

This should be included in Page No.44, under '**Articles Published**' by Dr.R.Kannan, I.A.S.

1. "Museum Management", Journal of Indian Museums, Vol. IV, April 2001.

This should be included in Page No.49, under '**Tours Undertaken**' by Dr.R.Kannan, I.A.S.

16.07.2001- Visited Sartaj Mahal, Saraswati Mahal, Darbar
19.07.2001 Hall, Arsenal Tower, Big Temple in Thanjavur,
Manora in Pattukkottai, Danish Fort in
Tranquebar

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